AMERICAN

RAILROAD JOURNAL.

STEAM NAVIGATION, COMMERCE, MINING, MANUFACTURES.

HENRY V. POOR, *Editor.*

ASSISTANT EDITORS:

JAMES T. HODGE, *For Mining and Metallurgy.*
CHARLES T. JAMES, *For Manufactures and the Mechanic Arts.*
M. BUTT HEWSON, *For Civil Engineering.*

SATURDAY, JULY 27, 1850.

Second Quarto Series, Vol. VI., No. 30.—Whole No. 745, Vol. XXIII.

ESTABLISHED IN 1831.

NEW-YORK:

PUBLISHED WEEKLY, BY

JOHN H. SCHULTZ & CO.

Room 12, Third Floor,

No. 136 Nassau Street.

IRON BRIDGES, BRIDGE & ROOF BOLTS, etc. STARKS & PRUYN, of Albany, New York, having at great expense established a manufactory with every facility of Machinery for Manufacturing Iron Bridges, Bridge and Roof Bolts, together with all kinds of the larger sizes of Screw Bolts, Iron Railings, Steam Boilers, and every description of Wrought Iron Work, are prepared to furnish to order, on the shortest notice, any of the above branches, of the very best of American Refined Iron, and at the lowest rates.

During the past year, S. & P. have furnished several Iron Bridges for the Erie Canal, Albany Basin, etc. —and a large amount of Railroad Bridge Bolts, all of which have given the most perfect satisfaction.

They are permitted to refer to the following gentlemen:

Charles Cook, Nelson J. Beach, Jacob Hinds,	Canal Commissioners of the State of New York.
Willard Smith, Esq.,	Engineer of the Bridges for the Albany Basin.
Messrs. Stone & Harris, Mr. Wm. Howe,	Railroad Bridge Builders, Springfield, Mass.
Mr. S. Whipple,	Engineer & Bridge Builder, Utica, N. Y.

January 1, 1849.

TO RAILROAD COMPANIES AND BUILDERS OF MARINE AND LOCOMOTIVE ENGINES AND BOILERS.

FASCAL IRON WORKS.

WELDED WROUGHT IRON TUBES

From 4 inches to ¼ in calibre and 2 to 12 feet long, capable of sustaining pressure from 400 to 2500 lbs. per square inch, with Stop Cocks, T's, L's, and other fixtures to suit, fitting together, with screw joints, suitable for STEAM, WATER, GAS, and for LOCOMOTIVE and other STEAM BOILER Flues.

Manufactured and for sale by
MORRIS, TASKER & MORRIS.
Warehouse S. E. Corner of Third & Walnut Streets,
PHILADELPHIA.

To Railroad Companies, etc.

The undersigned has at last succeeded in constructing and securing by letters patent, a Spring Pad-lock which is secure, and cannot be knocked open with a stick, like other spring locks, and therefore particularly useful for locking Cars, and Switches, etc.

Companies that are in want of a good Pad-lock, can have open samples sent them that they may examine and judge for themselves, by sending their address to

C. LIEBRICH,
46 South 8th St., Philadelphia.

November 3, 1849. 6m*

Mattewan Machine Works.

THE Mattewan Company have added to their Machine Works an extensive LOCOMOTIVE ENGINE department, and are prepared to execute orders for *Locomotive Engines* of every size and pattern–also *Tenders, Wheels, Axles*, and other railroad machinery, to which they ask the attention of those who wish such articles, before they purchase elsewhere.

STATIONARY ENGINES, BOILERS, ETC., Of any required size or pattern, arranged for driving *Cotton, Woollen, or other Mills*, can be had on favorable terms, and at short notice.

COTTON AND WOOLLEN MACHINERY, Of every description, embodying all the modern improvements, second in quality to none in this or any other country, made to order.

MILL GEARING,

Of every description, may be had at short notice, as this company has probably the most extensive assortment of patterns in this line, in any section of the country, and are constantly adding to them.

TOOLS.

Turning Lathes, Slabbing, Planing, Cutting and *Drilling Machines*, of the most approved patterns, together with all other tools required in machine shops, may be had at the Mattewan Company's Shops, Fishkill Landing, or at 66 Beaver street, New York.

WM. B. LEONARD, *Agent.*

RAILROAD India-rubber Springs.

IF any Railroad Company or other party desires it, the NEW ENGLAND CAR COMPANY will furnish India-rubber Car Springs made in the form of washers, with metalic plates interposed between the layers, or in any other form in which they can be made; in all cases guaranteeing the right to use the same against any and all other pretended rights or claims whatsoever.

F. M. RAY, 98 Broadway, New York.
E. CRANE, 99 State Street, Boston.
1849.

MACHINE WORKS OF ROGERS KETCHUM & GROSVENOR, *Patterson, N. J.* The undersigned receive orders for the following articles manufactured by them of the most superior description in every particular. Their works being extensive, and the number of hands employed being large, they are enabled to execute both large and small orders with promptness and dispatch.

Railroad Work.—Locomotive Steam Engines and Tenders; Driving and other Locomotive Wheels, Axles Springs and Flange Tires; Car Wheels of Cast Iron a variety of patterns and chills; Car Wheels of Cast Iron with wrought tires; Axles of best American refined iron; springs; boxes and bolts for cars.

Cotton, Wool and Flax Machinery of all descriptions and of the most improved patterns, style and workmanship.

Mill gearing and millwright work generally, hydraulic and other presses; press screws; callenders; lathes and tools of all kinds; iron and brass castings of all descriptions.

ROGERS, KETCHUM & GROSVENOR,
Patterson, N.J. or 74 Broadway, New York.

THE NEWCASTLE MANUFACTURING Co. continue to furnish at the Works, situated in the town of Newcastle, Del., Locomotive and other steam engines, Jack Screws, Wrought Iron Work and Brass and Iron Castings, of all kinds connected with Steamboats. Railroads, etc.; Mill Gearing of every description; Cast Wheels (chilled) of any pattern and size, with Axles fitted, also with wrought tires, Springs, Boxes and bolts for Cars; Driving and other wheels for Locomotives.

The works being on an extensive scale, all orders will be executed with promptness and despatch. Communications addressed to Mr. William H. Dobbs, Superintendent, will meet with immediate attention.

ANDREW C. GRAY,
President of the Newcastle Manuf. Co.

DEAN, PACKARD & MILLS,

MANUFACTURERS OF ALL KINDS OF

RAILROAD CARS,

SUCH AS

PASSENGER, FREIGHT AND CRANK CARS

— ALSO —

SNOW PLOUGHS AND ENGINE TENDERS OF VARIOUS KINDS.

CAR WHEELS and AXLES fitted and furnished at short notice; also, STEEL SPRINGS of various kinds; and

SHAFTING FOR FACTORIES.

☞ *The above may be had at order at our Car Factory*

REUEL DEAN,
ELIJAH PACKARD,
ISAAC MILLS,
} SPRINGFIELD, MASS.

1y48

Iron Safes.

FIRE and Thief-proof Iron Safes, for Merchants, Banks and Jewelers use. The subscriber manufactures and has constantly on hand, a large assortment of Iron Safes, of the most approved construction, which he offers at much lower rates than any other manufacturer. These Safes are made of the strongest materials, in the best manner, and warranted entirely fire proof and free from dampness. Western merchants and the public generally are invited to call and examine them at the store of E. Corning & Co., sole agents, John Townsend, Esq., or at the manufactory.

Each safe furnished with a thief-detector lock, of the best construction.

Other makers' Safes repaired, and new Keys and Locks furnished at the shortest notice.

H. W. COVERT
cor. Steuben and Water sts. Albany
August 24, 1848.

PHILADELPHIA CAR MANUFACTORY,

CORNER SCHUYLKILL 2D AND HAMILTON STS.,
SPRING GARDEN, PHILADELPHIA CO., PA.

Kimball & Gorton,

Having recently constructed the above works, are prepared to construct at short notice all kinds of

RAILROAD CARS, Viz:

Passenger Cars of all classes—Open and Covered Freight and Express Cars—Coal Cars—Hand Cars & Trucks of all descriptions.

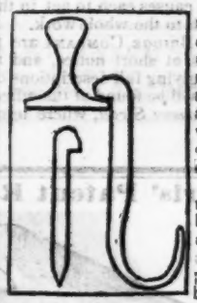
They are also prepared to furnish Chilled Wheels of any pattern. Car Wheels & Axles fitted and furnished. Snow Ploughs and Tenders made to order. Steel and other Springs always on hand.

All orders will be filled at short notice, and upon as good terms as at any other establishment in the country.

Omnibuses from the Exchange run within one square of the manufactory every 10 minutes during the day.

Philadelphia, June 16, 1849. 1y25

Patent Self-clinching Railroad Spikes.



These spikes have been in use upon various roads for several years, and have met with universal approval by Engineers. They drive in the manner shown, turning themselves, and are therefore not liable to work loose. They will prove of great value to secure the chair.

We are also manufacturing railroad spikes, hook and flat head; wrought chairs, clamps, etc., of superior quality, and are prepared to contract for any pattern or weight upon favorable terms.

SMITH & TYSON,
25 South Charles st., Baltimore Md.

P. H. Griffin,

Corner of Steuben and James Sts. Albany, N.Y.

CONTINUES to manufacture copper flues for locomotive boilers, brewers' coppers, stills, tanner heaters, etc. Copper work in general, at the shortest notice. He has constantly on hand brass cocks, brass valves, copper pumps of every variety.

Orders promptly attended to. 1y14

Patent India Rubber Steam Packing.

THIS article, made by the subscriber, who alone is authorised to make it, is warranted to stand as high a degree of heat *as any that has been or can be made by any person*—and is the article which has made the reputation of India Rubber Steam Packing and the demand therefor. A large assortment of all thicknesses requisite for any description of engines, steam pipes, valves, etc., constantly on hand and for sale by the manufacturer and patentee, who will give every information regarding its properties, mode of use, etc. at the warehouse. JOHN GREACHEN, JR.,
98 Broadway, opposite Trinity Church.
New York, October, 1849.

Fire Brick.

THE Subscribers have constantly on hand Rafford's Stourbridge, Oak Farms Stourbridge, Lister, Wortley, Red and White Welsh Fire Bricks, common and fancy shapes. Also,

ROOFING SLATES,

from the best Welch quarries, and of all sizes. Also,

COAL,

of all kinds—Liverpool Orrell and Cannel, Scotch, New Castle, Picton, Sidney, Cumberland, Virginia, and all kinds of Anthracite coals. Also,

Pig Iron, Salt, etc., etc., for sale at the lowest market price. Apply to

SAMUEL THOMPSON & NEPHEW,
275 Pearl and 43 Gold Sts., New York.
November, 23, 1849.

NEW YORK IRON BRIDGE COMPANY.

The Bridges manufactured by this Company having been fully tested on different Railroads, by constant use for more than two years, and found to answer the full expectations of their most sanguine friends, are offered to the public with the utmost confidence as to their great utility over any other Bridge now known.

The plan of this Bridge is to use the Iron so as to obtain its greatest longitudinal strength, and at the same time it is so arranged as to secure the combined principles of the *Arch, Suspension and Triangle*, all under such controlling power as causes each to act in the most perfect and secure manner, and at the same time impart its greatest strength to the whole work.

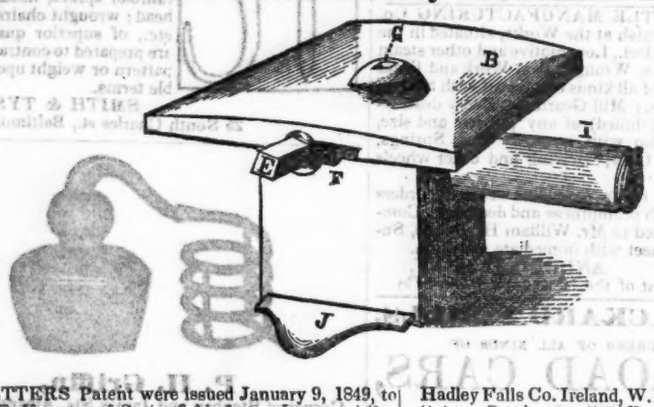
THE NEW YORK IRON BRIDGE COMPANY are prepared to furnish large quantities of Iron Bridging for Railroad or other purposes, at short notice, and at moderate prices.

Models, and pamphlets giving full descriptions of the above BRIDGE, with certificates based on actual trial from undoubted sources, will be found at the office of the Company, 39 Jauncey Court, Wall st., or of W. RIDER & BROTHERS, 19 *Nassau Street*, where terms of contract will be made known, and where orders are solicited.

August 29, 1849.

M. M. WHITE,
Agent for the Company.

E. Harris' Patent Rotary Blacksmith Tuyere.



LETTERS Patent were issued January 9, 1849, to E. HARRIS, of Springfield, for an Improved Rotary Blacksmith Tuyere. Since that time there have been some hundreds put in operation, giving satisfaction and full proof of superiority over all others.

This Tuyere is so arranged that by one movement it can be changed from the largest work to the smallest; at the same time the fire is changed in proportion, thereby making a great saving in coal. Words cannot convey the full merits of this Tuyere; nor is it deemed necessary to speak in disparagement of other Tuyeres, as every smith is capable of judging for himself, and will give merit where merit is due.

I will simply say that there has not been a single instance where I have had my Tuyere put in use but it has given full satisfaction, and is recommended by all who have used them, as being superior to any other ever introduced. I would invite all to give them a trial; and the names of those using them being given. I hope it may induce others to try them; they recommend themselves.

Western Railroad Shop,	Springfield,	Mass.
" "	Pittsfield,	"
Connecticut val."	Springfield	"
" "	N. Hampton	"
Hartford	Hartford,	Conn.
New Haven	New Haven	"
Norwich and Worcester,	Norwich	"
N. York and N. Haven,	New Haven	"
Saratoga and Whitehall,	Saratoga,	N. Y.
Vermont Central,		
Hudson and Berkshire,	Hudson,	
L. Kingsley.	Canton,	Mass.
Hadley Falls Co.	Ireland, W. Springfield,	Mass.
Sidney Patch,	Boston,	"
Ames Manuf. Cor.,	Chickopee,	"
American Machine w'ks,	Springfield	"
Dean, Packard & Mills	"	"
G. Frank Bradley,	N. Haven,	Conn.
Andrew Baird,	"	"
Collis & Lawrence	"	"
Slate & Brown,	Windsor Locks,	
Gage,	Nashua,	N. H.
Machine shop,	Manchester,	"
Louis F. Lanney,	Baltimore,	Md.
J. H. Baerdid,	179 Chambers st.	N. Y.
J. Fanning	Rochester,	"
G. W. Hunt	41 Gold st.	"
Chamberlain & Waldo,		"
P. S. Burges, carriage maker,		"
Samuel Miller,		"
J. Leggett,	Steverson falls,	"
J. E. Harris,	Hillsdale,	"
John L. Graham,	Albany,	"
David Dalsell,	South Egremont,	Mass.
Roys & Wilcock,	Berlin,	Conn.

Agents for the sale of Tuyeres:

B. B. Stevens in New York and Connecticut.

A. J. VanAllen has the Agency for the Western and Southern States, and is now travelling through those States. Any communication addressed to the patentee will receive prompt attention.

E. HARRIS, Patentee,
Springfield, Mass.

November 23, 1849.

Railroad Lanterns.

COPPER and Iron Lanterns for Railroad Engines, fitted with heavy silver plated Parabolic Reflectors of the most approved construction, and Solar Argand Lamps; manufactured by

HENRY N. HOOPER & CO.,
No. 24 Commercial St. Boston.

August, 16, 1849. 6m33

Gas Fixtures.

FIXTURES for Burning Gas for Lighting Public Buildings, Private Dwellings, Stores and Factories, manufactured by the subscriber in great variety. Orders by Mail, or left at the Factory on Causeway street, will be promptly attended to.

HENRY N. HOOPER & CO.

Boston, March 23, 1850. 6m13

F. M. Ray's Patent India-rubber Car Springs.

India-rubber Springs for Railroad Cars were first introduced into use, about two years since, by the inventor. The New England Car Company, now possesses the exclusive right to use, and apply them for this purpose in the United States. It is the only concern that has tested their value by actual experiment, and in all arguments in favor of them, drawn from experience of their use, are in those cases where they have been furnished by this company. It has furnished every spring in use upon the Boston and Worcester road, and, in fact, it has furnished all the springs ever used in this country, with one or two exceptions, where they have been furnished in violation of the rights of this company; and those using them have been legally proceeded against for their use, *as will invariably be done in every case of such violation.*

The Spring formed by alternate layers of India-rubber discs and metal plates, which Mr. Fuller claims to be his invention, was invented by Mr. Ray in 1841.—In proof of which we give the deposition of Osgood Bradley, of the firm of Bradley & Rice, of Worcester, Mass., car manufacturers, and men of the highest respectability. In this deposition, in relation to the right of parties to use these springs, he says:

"I have known Mr. Ray since 1835. In the last of May or the commencement of June, 1844, he was at my establishment, making draft of car trucks. He staid there until about the first of July, and left and went to New York. Was gone some 8 or 10 days, and returned to Worcester. He then on his return said he had a spring that would put iron and steel springs into the shade. Said he would show it to me in a day or two. He showed it to me some two or three days afterwards. It was a block of wood with a hole in it. In the hole he had three pieces of India-rubber, with iron washers between them, such as are used under the nuts of cars. Those were put on to a spindle running through them, which worked in the hole. The model now exhibited is similar to the one shown him by Ray. After the model had been put into a vice, witness said that he might as well make a spring of putty. Ray then said that he meant to use a different kind of rubber, and referred to the use of *Goodyear's Metallic Rubber*, and that a good spring would grow out of it." There are many other depositions to the same effect.

The history of the invention of these springs, together with these depositions, proving the priority of the invention of Mr. Ray, will be furnished to all interested at their office in New York.

This company is not confined to any particular form in the manufacture of their springs. They have applied them in various ways, and they warrant all they sell.

The above cut represents precisely the manner in which the springs were applied to the cars on the Boston and Worcester road, of which Mr. Hale, President of this road speaks, and to which Mr. Knevitt refers in his advertisement. Mr. Hale immediately corrected his mistake in the article quoted by Mr. Knevitt, as will be seen by the following from his paper of June 8, 1848. He says:

INDIA-RUBBER SPRINGS FOR RAILROAD CARS.—"In our paper yesterday, we called attention to what promises to be a very useful invention, consisting of the application of a manufacture of India-rubber to the construction of springs for railroad cars. Our object was to aid in making known to the public, what appeared to us the valuable properties of the invention, as they had been exhibited on trial, on one of the passenger cars of the Boston and Worcester railroad. As to the origin of the invention we had no particular knowledge, but we had been informed that it was the same which had been introduced in England, and which had been subsequently patented in this country; and, we were led to suppose that the manufacturers who have so successfully applied this material, in the case to which we referred had become possessed of the right to use that patent. It will be seen from the following communication, addressed to us by a member of the company, by which the Worcester railroad was supplied with the article upon which our remarks were based, that we were in an error, and that the springs here introduced are an American invention, as well as an American manufacture. How far the English invention may differ from it we have had no opportunity of judging."

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HENRY V. POOR, Editor.

ESTABLISHED 1831.

PUBLISHED WEEKLY, AT No. 136 NASSAU ST., NEW YORK, AT FIVE DOLLARS PER ANNUM IN ADVANCE.

SECOND QUARTO SERIES, VOL. VI., No. 30.] SATURDAY, JULY 27, 1850. [WHOLE No. 745, VOL. XXIII.

ASSISTANT EDITORS,

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American Railroad Journal.

PUBLISHED BY J. H. SCHULTZ & Co., 136 NASSAU ST.

Saturday, July 27, 1850.

We re-publish the subjoined article, as the cuts did not work well in our last impression, and as it is an article of much importance to the manufacturers of iron throughout the country.

Lake Champlain Bloomery Fires.

The accompanying plans of bloomery fires, as used in the Lake Champlain region of New York, are designed to complete the article upon the forges of this district, which was left unfinished on page 290 of the Journal.

The four first figures are sections in different directions through the most simple form of the bloomery. Figures 5, 6 and 7 are sections illustrating a similar fire supplied with the arrangement for reheating the blooms with the gases of the escape heat returned to the oven and mixed with a current of heated atmospheric air.

Fig. 1 is a front elevation of the common bloomery fire: the following letters designate its several parts and the apparatus connected with it.

a, a, a—Hot air pipes.

b—One of the two bed pipes.

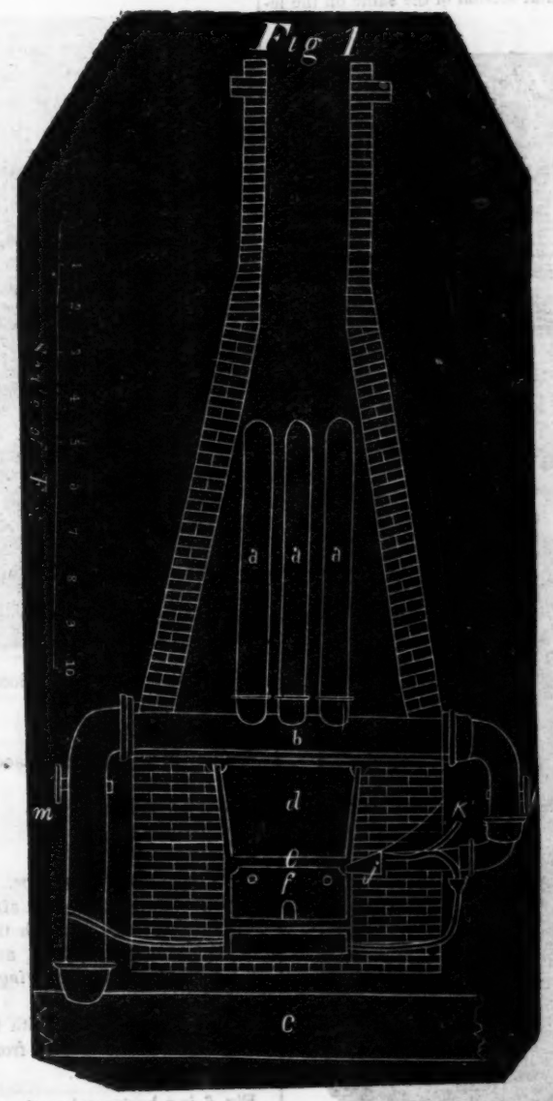
c—Main blast pipe from the blowing cylinders.

d—Back plate of the fire.

e—Fire plate.

f—Plate through which the cinder is drained off.

Fig 1



g—Bottom plate of the fire.

h—Water box placed under the fire.

i—A small pipe for letting the waste water out of the fire box.

j—Water twere.

k—Pipe for supplying cold water to the twere.

l—Valve for shutting off the hot air from the fire.

m—Throttle valve for regulating the supply of cold air to the hot blast pipes.

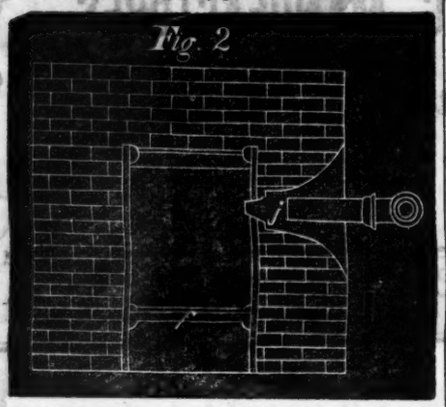


Fig. 2. Horizontal section of the same on the level of the twere.

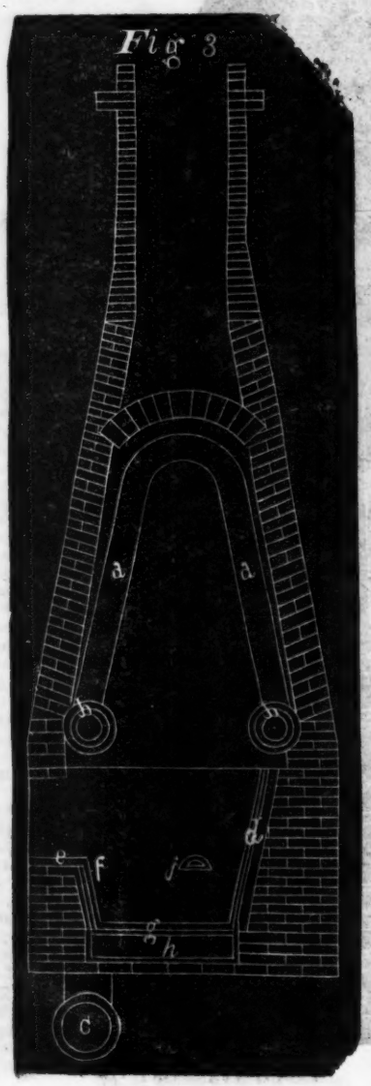


Fig. 3. Side elevation of same. The letters correspond to those in fig. 1.

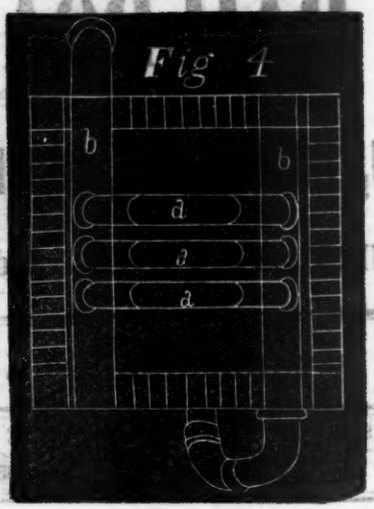


Fig. 4. Horizontal section on level of the bedplates.

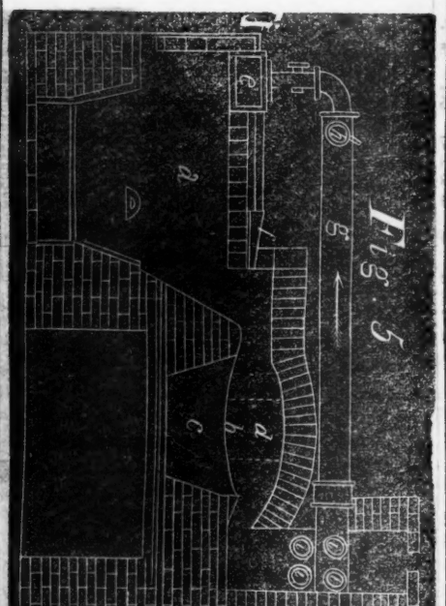


Fig. 5. Side elevation of bloomery fire with oven for re-heating the blooms.

a—Bloomery fire.

b—Bottom of heating furnace on which the cold iron is charged.

c—Sand hearth.

d—Charging door.

e—Wind box.

f—Wrought iron blow pipe.

g—Pipe for conveying hot air to the wind chest.

h—Opening through which the hot air passes to feed the bloomery fire below, as seen in fig. 7.

i, i, i, i—Hot blast pipes lying horizontally in the chimney.

j—Cast iron door lined with fire brick; lets up and down, and can close the front of the fire, so as to keep out the cold air.

Fig. 6 is a horizontal section of the same on the level of the blow pipes and heating oven.

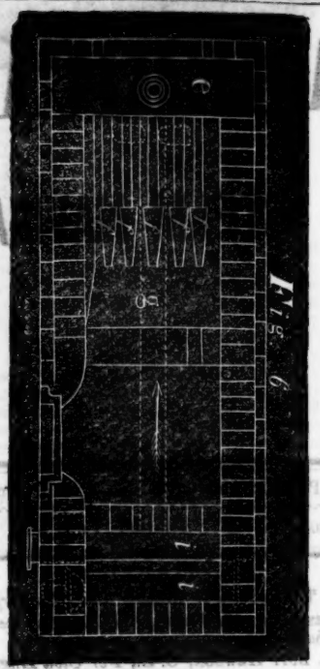


Fig. 7 is a front elevation of the same.

The letters in figs. 6 and 7 correspond to those of fig. 5.

In working these bloomeries it is generally found that from good magnetic ores, well prepared by crushing and washing (unless as in some instances, already cited, the ores are rich enough and coarsely granular at the same time, to render this preparation unnecessary) a hundred pounds of iron are produced every hour, or twenty four hundred pounds every twenty four hours. Two and a quarter tons of prepared ore are used, and about 240 bushels of charcoal to the ton of iron. This shows a considerable loss of ore in the process, much more than in smelting in a well conducted blast furnace; for this prepared ore must average not far from 65 per cent. of iron. It is found most economical to use the air for the blast at a temperature estimated at about 600°; the fire being properly burdened with ore, less charcoal is consumed to the ton of blooms, than when the blast is kept at a lower temperature.

The heating oven connected with some of the bloomery fires requires more than one of these to keep it at a sufficient temperature for re-heating the blooms. The fires are so arranged that two supply the escape gases to each oven. Small blow pipes are more effectual in causing a thorough mixture of the hot air and the gases, and consequently a more complete combustion, than large ones; but the smaller the blow pipes the greater number must be employed. The pressure of the blast is estimated at from two to three pounds to the inch. H.

* In the column of ores, H signifies brown hematite; M, magnetic; F, fossiliferous red oxyde; C, carbonate; B, bog ore.

† Altered from charcoal 1839. § Altered from charcoal 1845. ‖ Since stopped.

A DETAILED STATEMENT OF ALL THE ANTHRACITE BLAST FURNACES IN THE STATE OF PENNSYLVANIA IN 1850.

County.	Sold by Sheriff, or failed, and date.	Furnaces. Unfinished.	In blast.	Out of blast.	Date of construction.	Name of works.	Situation, P.O.	Owners.	Lessees.	*Kind of ore used.	Largest product. Tons.	Actual make 1849. Tons.	No. of persons employed.	No. horses, etc. employed.	Blast. Heat.	Blast. No. tweres.	Blast. Diam. do.	Blast. Pressure.	Stack. Feet bosh.	Stack. Ft. height.	Kind of power used and No.	Kind of metal made and No	Annual capacity. Tons.
Berks,			1		1846	Henry Clay,‖	Reading,	Eckhart & Bro.,	None.	H. M	3,484	3,250	50	35	500°	3	3	3a4	14	37	Steam	1	3,500
Bucks,		1	1		1848	Durham,	Durham,	Jos. Whittaker & Co.	"	"	3,840	3,840	103	32	500	3	3	3	13	40	"	2, 3	8,000
Columbus,	1843 S			1	1838†	Montour, 1	Danville,	Montour I. Co.	"	F.	3,135		70	5	612	3	2½	4	9	31	"		3,150
"	1844 S			1	1839	" 2	"	"	"		4,042		70	5	"	3	2½	4½	12	33	"	3	4,100
"	1844 S		1		1839	" ‖ 3	"	"	"		3,523	1,953	70	5	"	3	2½	4½	12	33	"	3	4,100
"			1		1846	" ‖ 4	"	"	"		6,449	6,449	70	5	"	4	2½	4½	14	34	"	3	6,500
"	1842 S			1	1846	Franklin,	"	Jacob M. Maus & Co.	"	"	1,000	200	45	25	"	3	4	2	8	30	"	2, 3	2,000
"	1848 F			1	1840	Roaring Creek,	"	Trustees U. S. Bank.	"	"	2,000		45	45	"	3	3	3	8½	32	Water	1, 2	2,000
"			1		1840	Columbia,	"	Geo. Patterson,	J. P. & J. Grove,	"	2,500	1,600	50	20	"	3	2½	5	8½	30	Steam	1, 2	2,500
"			2		1845	Iron Dale,	Bloomsburg,	Bloomsburg I. Co.	None.	"	10,200	8,132	180	80	550	3	3¼	2½	14	35	Water	2, 2	10,200
"				1	1845	Williamsburg,	Light street,	M. McDowell,	"	"	1,200	800	40	25	500	3	3	1½	8	30	"	2, 3	2,000
"				1	1847	Light street,	"	Light Street I. Co.	"	"	1,000	550	40	20	"	3	2½	1½	9	32	"	2, 3	2,000
Carbon,	1848 F		1		1838	Carbon,	Mauch Chunk,	J. Richards & Sons,	"	H. M.	1,500	1,500	53	8	"	3	3	3	8½	34	"	1, 2	2,000
"				1	1826	Mauch Chunk,	"	Lehigh Coal and Nav. Co.	"	"	4,052								8	2[illegible]	"		2,000
Chester,				1	1845	Phoenix, 1	Phoenixville,	Reeves, Buck & Co.	"	"		1,534	}		612	3	3	4	12	38	Steam	2, 3	4,100
"			1		1845	" 2	"	"	"	"	3,910	3,910	371	114	612	3	3	4	12	38	"	2, 3	4,100
"				1	1847	" 3	"	"	"	"	4,718	2,581	}		"	3	3	4	14	38	"	2, 3	5,000
Dauphin,				1	1845	Harrisburg	Harrisburg,	D. R. Porter,	"	H.	3,614	3,360	71	48	"	3	3¼	3½	12	35	"	1, 2	3,800
"	1847 S			1	1844‡	Emeline,	Dauphin,	A. C. Bayard,	"	"	600		30	7	"	3	2½	2½	8	35	S&W	"	2,000
Lehigh,				1	1840	Crane, 1	Catasauqua,	Lehigh Crane I. Co.	"	H. M.	3,958	3,639	}	300	"	3	3	4	11	45	Water	"	4,000
"			1		1842	" 2	"	"	"	"	4,833	4,494	500		"	4	3	4	13	45	"	"	5,000
"			1		1846	" 3	"	"	"	"	7,144	6,139	}		"	6	3	4	17	45	Steam	"	7,200
"			1		1850	" 4	"	"	"						"	7	3	4	18	40	"	"	8,000
"			1		1850	" 5	"	"	"						"	7	3	4	18	40	"	"	8,000
"			1		1846	Allentown, 1	Allentown,	D. E. Wilson & Co.	"	"	5,000	4,200	200	250	"	3	2½	2½a3	12	35	"	"	5,000
"			1		1847	" 2	"	"	"	"	5,000	4,200			"	3	2½	2½a3	12	35	"	"	5,000
Luzerne,				1	1842	Lackawana 1	Scrantonia,	Scrantons & Platt,	"	F. C.	1,800	1,800	}	225	450	3	2½	2	11	33	Water	3	2,000
"			1		1849	" 2	"	"	"	"	300	300	500		"	3	3½	2½	14	35	Steam	3	3,500
"			1		1849	" 3	"	"	"	"	300	390	}		"	3	3½	2½	14	35	"	3	3,500
"				1	1847	Jim Crack,	Wilkesbarre,	H. B. Renwick,	"	F.	1,300		50	20	"	3	2½	1	9	33	"	3	1,500
Lebanon,				1	1847	Lebanon, 1	Lebanon,	R. & G. D. Coleman,	"	M.	3,778	3,659	}	100	"	3	4	4	14	35	"	1, 2, 3	6,000
"			1		1848	" 2	"	"	"	"	3,354	3,188	213		"	3	5	4	12	35	"	"	5,000
"		1			1850	Cornwall,	Cornwall,	R. W. & W. Coleman,	"						"	3	4		12	38	"	"	5,000
Lancaster,			1		1848	Safe Harbor,	Safe Harbor,	Reeves, Abbott & Co.	"	H.	2,879	2,879	100	34	"	6	3½	3½	14	45	"	3	5,000
"	1849 S			1	1844	Shawnee,	Columbia,	Wright & Nephew,	"	"	1,000		28	60	"	2	4		8	28	"	1, 2	2,000
"	1849 S		1		1848	Cordelia,‖	"	Bryan & Longnecker,	"	"	700	250	28	7	612	3	3		8½	31	"	"	2,000
"	1842 S			1	1841§	Sarah Ann,	"	John B. Hertzler,	D. R. Porter,	"	1,664	200	24	30	"	3	3	3½	8	30	"	"	2,000
"			1		1845	Henry Clay,‖	"	John Haldeman,	None.	"	2,678	2,159	50	36	"	3	3½	2½	9	35	"	"	2,800
"			1		1846	Chickiswalungo	‖ "	E. Haldeman & Co.	"	"	2,464	1,500	45	40	"	3	3	2½	8	32	"	1, 2, 3	2,500
"				1	1849	Donegal,	"	Eckert & Stein,	"	"	3,472	3,472	46	44	"	3	3	4	10	35	"	"	3,800
"			1		1840	Marietta,	"	Shoenberger & Musselman	"	"	3,763	3,763	58	45	"	3	3½	3½	10	33	"	"	3,800
"		1			1845	"	"	"	"	"					"	3	3½	3½	10	33	"	"	3,800
Montgomery,			1		1848	Plymouth,	Conshohocken,	S. Colwell,	"	"	3,338	2,492	185	40	"	3	3	3	11	36	"	1, 2	3,350
"			1		1848	Merion,	"	Colwell & Co.	"	"	3,174	3,174	120	40	"	3	3	3½	14	38	"	"	3,500
"				1	1844	Spring Mill,‖	"	Est, Farr & Kunzi,	D. Reeves,	"	1,000		100	40	"	3	3	4	12	40	"	3, 4	4,000
"				1	1850	Swede,	Philadelphia,	Potts & Jones,	None.	"			110	20	"	6	2½	4	14	42	"	1, 2	4,000
"	1849 S			1	1845	Wm. Penn,	Conshohocken,	Hitner, Reeves & Co.	"	"	3,120	2,044	95	42	"	6	2½	2½	13	33	"	"	3,500
Northumberland			1		1846	Chulasky,	Chulasky,	S. R. Wood,	"	F.	3,000	3,500	65	50	"	3	4	3½	14	34	"	2, 3	4,500
"	1846 S			1	1842	Shamokin,	Shamokin,	Claghorn, Richards & Co.	"	C.B.F	1,380		40	25	"	3	3	4½	12	45	"	1, 2	3,500
Northampton,	1849 S		1		1842	S. Easton,	Easton,	Thomas & Mills,	"	H. M.	3,140	3,140	50	20	"	3	2½	3½	11	37	Water	"	3,500
"				1	1844	Glendon, 1	"	Chas. Jackson, Jr.	"	"	3,978	3,978	}	90	500	3	3	3	10	45	"	1, 2, 3	4,000
"			1		1845	" 2	"	"	"	"	6,253	4,469	200		"	4	3	3	12	45	"	"	6,300
"		1			1850	" 3	"	"	"	"					"	5	3	3	12	35	Steam	"	6,300
Schuylkill,	1849 S		1		1838	Pioneer,‖	Pottsville,	The Greenwood Co.	Patterson, R. & Co.	H. C.	1,742	570	60	25	612	3	3	4	9	34	"	1	2,000
"		1				St. Clair,	St. Clair,	Burd Patterson.	None.	C.					"	3			14	32	"	1, 2	3,500
	14	5	29	23							151,331	109,168	4225	2126									221,400

* In the column of ores, H signifies brown hematite; M, magnetic; F, fossiliferous red oxyde; C, carbonate; B, bog ore.
† Altered from charcoal 1839. § Altered from charcoal 1848. § Altered from charcoal 1845. ‖ Since stopped.

Banking in the United States.

The Washington correspondent of the Evening Post furnishes that paper with a digest of a report on the condition of the banks in the Union made to Congress. The following are the leading items of that report:

COMPARATIVE VIEW OF THE CONDITION OF THE BANKS OF THE UNITED STATES.—Jan.:

	1848.	1849.	1850.
Number of banks & branches	751	782	829
Cap'l paid in....	$204,833,175	$207,309,361	$217,317,211
Resources.			
Loans and dis	344,476,582	332,333,195	364,204,078
Stocks....	26,498,054	23,571,575	20,006,759
Real Estate.....	20,580,955	17,491,809	20,532,066
Other investments.	8,229,682	7,965,463	11,949,548
Due by other banks	38,904,525	33,258,407	41,631,855
Notes other banks	16,427,716	12,708,016	16,303,239
Specie fds.	10,409,822	8,680,483	11,003,245
Specie....	46,369,765	43,619,308	45,379,345
Liabilities.			
Circulat'n.	128,506,091	114,742,415	131,306,526
Deposits..	103,226,177	91,178,623	100,536,595
Due other banks...	39,414,371	30,005,366	36,717,451
Other liabilities..	5,501,401	6,706,657	8,835,359
Total of cur. credits, i. e. circulation and deposits.	231,732,268	205,922,038	210,953,121
Total of immediate liabilties i. e. circulations, deposits & sums due other banks	271,146,639	236,017,404	277,670,572
Total of immediate m'ns. i. e. specie funds			
Notes of other bks & sums due by other bks	112,191,828	98,236,274	114,917,778
Excess of immediate liabilities above immediate means..	158,954,811	137,781,130	162,752,794

Specie in the Banks, Circulation and Deposits.

	Specie.	Circulation.
1834....		94,839,570
1835....	43,937,625	100,662,405
1836....	40,019,594	140,301,038
1837....	37,915,340	149,135,190
1838....	35,184,112	116,138,910
1839....	45,132,673	135,170,995
1840....	33,165,155	106,986,572
1841....	34,818,913	107,290,214
1842....	28,440,413	83,734,011
1843....	33,515,806	58,563,603
1844....	49,898,269	75,167,646
1845....	44,241,242	89,608,711
1846....	42,012,095	105,552,427
1847....	35,132,516	105,519,766
1848....	46,369,765	128,596,091
1849....	43,639,363	114,743,415
1850....	45,379,345	131,366,526

	Deposits.	Total of current credits.
1834....	75,666,986	170,503,556
1835....	83,034,365	131,773,860
1836...	115,104,420	276,495,478
1837...	127,397.185	276,533,075
1838....	84,691,184	200,830,694
1839....	90,240,146	225,411,141
1840....	75,696,657	182,665,439
1841....	64,890,101	172,180,315
1842....	62,493,870	146,142,881
1843....	56,168,623	114,732,231
1844....	84,550,785	159,718,431
1845....	83,020,646	177,629,357
1846....	97,918,070	202,465,497
1847....	91,782,533	197,312,299
1848...	108,226,177	281,782,263
1849....	91,178,623	265,922,033
1850...	109,586,595	240,953,121

In May, 1837, the banks suspended specie payments. In May, 1838, the New York banks resumed specie payments, and the other banks attempted to follow their example, so that by January, 1839, there was what was called a general resumption of specie payments, though in many parts of the Union this was merely nominal.

In October, 1839, the banks of Philadelphia again suspended specie payments, and were imitated by the banks of the south and west.

Specie payments were not fairly resumed by the banks of Philadelphia till March, 1842. The banks of the south and west imitated their example; but in September, 1842, there was a tremendous bank convulsion at New Orleans, the effects of which were felt throughout the country. The consequence was, that by the 1st of June, 1843, the current credits of the banks were reduced to a very small amount. They continued small till May, 1843, when an expansion began, which was at first very gradual.

The great increase in the amount of specie and bank credits in 1848 over 1847, was in consequence of the demand for our breadstuffs in Europe.

In January last, the circulation of the banks was greater than it had been in any previous years, excepting 1834, 1837 and 1839; and the year 1839 may be left out of the comparison, as in the returns for that year are included many banks which did not pay specie.

In January, 1850, the banks were more expanded than they were in January, 1848.

The small amount in which the specie in the vaults of the banks varies, when compared with the amount of their circulation and deposits, is not unworthy of observation.

The greatest amount of specie in the banks was in 1844, when it was $49,898,269. The smallest was in 1842, when it was $28,440,423. Difference, $21,457,846.

The circulation was lowest in 1843, when it was $58,563,608; and highest in 1837, when it was $149,158,190. Difference, $90,621,582.

The deposits were lowest in 1843, when they were $56,168,623; and highest in 1837, when they were $127,397,185. Difference, $71,228,562.

The current credits were greatest in 1837, when they were $276,583,075; smallest in 1843, when they were $114,732,231. Difference, $161,850,844.

To the Editor of the American Railroad Journal.

In your comments on my communication published on the 22d ult., you express the opinions that cotton cloth can be made in New England cheaper than in the west, and that the west may never successfully compete with New England in the foreign cotton cloth markets. Let us discuss these points. In our hunting and fishing and Indian fighting days we had not that kind of industry that fitted us to stand up before the power loom and spinning jenny; but as to our actual industry, that you and other people who have not been here undervalue we point to the results of our labors for the last half century; to the millions of acres reclaimed from the wilderness; to the cities, towns and roads we have made; to the commerce on our rivers, and to the muscle shown in our newly made work shops. Is there not as much industry in following the trail of an Indian or a deer as in hammering leather, or shoving the jack plane? In cutting down the giant poplars and sycamores as in sawing veneers? In "cordalling" a keal boat as in catching mackerell? There has never been a greater mistake made by strangers than that the people of the west have had and still have less industry than the people of New England or any other people. We work harder while we do work. Daniel Boone labored harder than Samuel Slater.

But our hunting days are over. We now labor from sun up to sun down in the fields and the work shops. The farmer of this valley uses his legs and arms as dilligently and efficiently as he of Middlesex or Dutchess. The men and boys in the four-acre workshop of Miles Greenwood in Cincinnati, make as many hinges, screws, buckles and locks as are made by the same number of fingers in Newburg or Birmingham. A few years ago we imported all our wood screws from England and then from New England; now, Greenwood is underbidding New England in your market in this article. A few years ago we scarcely printed an almanac in this valley: now Winthrop Smith of Cincinnati, and Morton and Griswold of Louisville, print books as well and as cheap as the Harpers; they use the same machinery and get labor as cheap and as efficient. A few years ago we bought all our ready made clothing in the eastern cities; now we buy the cloth only. If our shirt maker gets but 20 cents a day, she can buy with this money and every other day, the head of a hog and a basket full of vegetables, and have enough left to pay for clothing and rent, and still have something to spare.

You are mistaken in this matter of labor. We have plenty of it. Remember that our women do not work in the fields, and have but few appropriate opportunities of earning money, and that they love new ribbands and gowns just as well as any other women in christendom. As soon as the large cotton and woolen mills are put up here, and the right systems adopted, there will be plenty of fingers for the spindles and shuttles.

We admit that we have not now as much "mechanical skill" as there is at Manchester or Lowell; but as to "ingenuity," in which you consider us inferior, we claim a full share of it. Ask your neighbor, the "Spirit of the Times, to describe to you the way in which a backwoodsman will repair a rifle with home made tools. Put the young hunter into the machine shop, and he brings to bear on his work a variety of contrivances that would astonish you.

But, even granting the greater ingenuity, industry and skill of the people of New England, is it to be supposed that they will not come out to positions where subsistence, power and raw materials are and forever must be cheaper than they can be found there? The love of independence, which is not far removed from a love of money, is "mighty" strong in the mind of a Yankee. It weighs down local attachments. My father sent four of his children to this valley because he thought they could do better here than at home. He would then have come

himself, and brought his "household goods" with him, had there been a continuous line of railroad to this valley, as there will be in a few years; and could he then have found, as he now could find, a good school, a comfortable residence and a congregational meeting house, at the spot he selected for us. You may rely upon it that the *bona fide*, working manufacturers of New England will bring their tools to the best market. Man makes his house as the bird builds her nest, as near as practicable to the best feeding place.

Well, grant that we shall have the labor, skill and tools. The Ohio coals will make as much steam as the coals from Pictou or Pottsville; there are just as many hours in the day in Ohio as in Massachusetts; the great and little wheels of the mill will revolve as rapidly and as smoothly at Pomeroy as in Providence; and our wheel tenders are as near the cotton cloth markets of the world as are they of New England, and nearer to the raw cotton markets by a full cent per pound; or a smart profit. The Alleghany Mountains did present a serious barrier to the current of skill and capital that was setting in this direction. That barrier has been pierced; the current is widening its channel, and there must be an equilibrium. Labor, skill and capital will find a common level as quick as any liquid.

SCIOTA VALLEY.

An Essay on Pen and Pocket Cutlery,

Embracing a Detailed Description of the Mechanical, Chemical, and Manual Operations Performed on Certain Raw Materials, to Convert them into the Means, Implements, and Materials, for Manufacturing Pen and Pocket Knives.

BY A. L. HOLLEY.

CHAPTER VII.—DESCRIPTION OF THE OPERATIONS PERFORMED BY THE ENGLISH CUTLER ON A FOUR BLADE, SHELL HANDLED, CONGRESS KNIFE.

Continued from page 452.

A point is placed through the middle or spring hole of the mark side scales, through a spring, middle scale, another spring, and the opposite or pile side scale. A point is placed through the right hand bolster of the mark side scale, a forward point pen blade, the middle scale, a forward point pocket blade, and the opposite scale. Another point is now put through the pile side bolster, a square point pen and a nail blade. The spring ends rest on the shoulder of the tang at one end of the knife, and are lifted to that position by a pointed instrument inserted at the other. The blades are opened one by one, and the shoulder of the tang filed down if necessary, till the blade stands sufficiently back, and if already "too back," either the spring or the shoulder of the tang are lengthened by hammering. The blade may stand rightly, and thus throw the spring end above or below its back, or the blade back may be a trifle below the spring, in which case a small portion of the tang or back must be removed by a file. The blade being perfectly fitted at this point, is half shut, made to stand rightly, and to hold the spring exactly even with the scale, then shut into the handle in such a way as to cover the point to leave the nail mark out so as to be reached by the nail, to shut on the proper side of the opposite blade, and not on the back of the knife, and to hold the spring even at all points with the scale edges. For unusually thick blades, thick springs are selected, and the parts must come closely together.

These operations are performed on all the blades, which are often removed and again put into the handle a dozen times or more. The *set* of all the blades and springs depends on the shape and the proportions of 48 different points on their ends, sides and corners, and if these are the twentieth part of an inch too broad or too narrow, the knife is imperfect. When the blades are thoroughly fitted to the other portions of the knife, they are with them screwed into the vice, and the backs are filed down till even in all parts to the scales, and then "coarse glazed." As they are taken apart, each spring, scale and blade is numbered by an impression from a small chisel, so that when they again come together they may not be in a state of "pi." The springs are then "fine glazed" on the backs, ends and insides, till very smooth, and till all scratches and coarse glazer marks are erased, and the blades coarse and fine glazed on the ends of the tangs, and usually smooth filed, with a very fine toothed file on the other edges, because they cannot conveniently be laid on the wheel. The friction of the emery and steel causes great heat, and if a small piece of the latter be held on the former for a few seconds it will be heated red hot. Cutlers therefore, for and in consideration of the welfare of their fingers as well as the virtue of the steel, hold the blade on the emery only a short time at once. If, as is often the case, the temper is drawn on the point or edge of the blade, and it is made blue, this color being only superficial, is removed by the same means that caused it, and the blade is supposed to be all right.

After the out and the insides of the springs and the tang ends are made smooth, they are burnished, which consists of cleansing them from all oil and loose particles of emery and steel, and rubbing them with another smooth and first wet then dry convex steel edge, the friction of which causes a most beautiful polish. The blades are then given to the grinder, who polishes the sides of the tangs which cannot conveniently be laid on wheels while in the handle. This he does by first holding them on the circumference of a glazer covered with cake emery—similar to those above described, except of greater diameter, and less breadth—which is hung and moved in the same manner as the grindstones, and which revolves from 600 to 800 times per minute. These wheels move very true and evenly, and render any metallic surface placed upon them smooth, though not bright. The work is held down with a patch of leather. After the tangs are all thus served, they are held on a "lap," which is a wood wheel from 9 to 15 inches in diameter, with a rim of lead around its circumference, an inch or less thick, and about an inch wide, and revolving from 700 to 1000 times per minute. The wheel is covered with cake emery, which applied by lead renders the steel of the blade still more even and smooth, though it occasions no polish nor brightness. The black polish, which converts the blade into a mirror, is produced by a wheel similar to a glazer covered with dry leather, free from oil, and pulverized impure oxide of iron, called colcothar crocus, and by the French rough d'Angleterre. Colcothar is a red oxide of iron, being the residue of the distillation of sulphate of iron, which is green vitrol. This wheel revolves about 180 times per minute, and at this speed sometimes heats the blades so much as to injure them. The steel must be held and rubbed for some time on the polisher in order to be brightened, and only particular kinds of crocus will produce the desired effect. The tangs after brushing are now completely dressed, also the springs.

The shields are next put into the mark side scales of each knife by the following operations:—an orifice in a steel plate exactly resembling the shape and size of the shield, is laid over that portion of the shell which is to be cut away. The scale and shield plate are laid against a support, and placed in the vice. A spring drill, (or fiddle bow drill, consisting of a roller and two long spring tempered arms, at the ends of which are two short, hardened points commencing at a shoulder,) is placed in the orifice in a shield plate, and made to revolve as before described. The points of the drill have a tendency to spring apart, and therefore follow the outsides of the mortice in pattern, and cut away sufficient shell to admit a shield. After all are drilled and supplied with shields, the latter, also the scale, are bored through in two places by a small hand drill, and rivetted as the shields are rivetted to the brass scale. The outsides of the bolster holes and the middle holes are countersunk, or beveled to receive the rivet head. Each pair of scales and middle scales are then put up in points, their front edges, still rough, are coarse glazed, and all the edges fine glazed, and polished by charcoal and boulder, which are rubbed on the glazer.—Boulder, or any hard stone, smooths over the charcoal, and causes it to polish the brass. The scales are afterwards separated, and their insides both coarse and fine glazed, and polished with charcoal or burnished. Sometimes the edges are *milled* by a wheel, the circumference of which is furnished with small and regular notches, and which leaves similar impressions on the brass. The tangs, springs, and the insides of the scales, are now wiped with buckskin, or the prepared skin of the chamois, and laid on a knife board in order, with their numbers up and in sight, then put together with German silver wire, in the same manner as before described. All such blades as do not now perfectly fit are filed and hammered till right. Two bits of wood of the thickness of the spring are placed between the scales, that they may stand straight when rivetted. The middle wire is first rivetted, then a slip of very thin metal placed between the two blades, that they may not be driven together so tightly as not to be shut or opened by the spring, when the bolster wires are rivetted, the slip removed, and the tang edges oiled. The blades are then opened and shut repeatedly, and if right, left open, and laid aside, but if they strike, one on another, the tangs are bent by a hammer till they are right. Blades must, in the language of the cutler, "walk and talk," that is, they must be sufficiently affected by the spring to keep firmly open and shut, and the different parts of the tang must strike on the spring so loud as to be distinctly heard, else the knife is imperfect. The knives are now "hafted," by fastening them in wooden clamps, which are placed in the vice, and with three fine files—two of which are cut but one way, and called floats—the edges of the shell are removed, and the whole is made even with the bolsters. The shell is next scraped with a shaving knife, and the bolsters are rough and fine glazed. The covering and bolsters are now made smooth, by being held on a "rough buff," or a wheel resembling and revolving like a glazer covered with a very oily thick leather [usually sea horse hide, which is often an inch thick, or the skin of a bull's neck] and oil, fine sand, or emery. By this wheel all marks of the files and scraping knife are erased, but no brightness or polish is produced. The knives after "rough buffed," are thoroughly cleansed from all emery, and hard, loose particles of sand, etc., and held on a "gloss buff," which resembles the other in make, but is covered with oil and rotten stone, and which pro-

duces a most brilliant polish on the shell, shield and bolsters. Rotten stone is found in Bakewell, in Derbyshire, Wales, and in Albany, N. Y., and is an earthy mineral consisting of about 86 parts alumina, 10 carbon, and 4 silicia. It very nearly resembles *tripoli*, which is a compound of silicia, alumina, and oxide of iron. The cutler lastly takes the knives on the board, to his bench, cleans out their insides and joints, with first a brush and fine lime, wipes them throughout with pulverized chalk and shammy skin, called wash leather, which completes—supposing him to finish two dozen knives in one job—at least 9,000 different operations. A cutler usually furnishes about two dozen knives of this variety in a week, though more can be made.

After the cutler has finished his work on the knives, they are taken to the finishing room, and inspected, the tangs and springs oiled to prevent oxidation, then wrapped in papers, with a blade open at each end, so that the handle may not be scratched or injured while the grinders again operate upon them. To "pass muster" at this first inspection, the blades must "walk" easily and "talk" audibly, though not on the back, and on each other, and must stand at a proper angle with the handle at all points, and keep the springs exactly even with the back scale edges when shut, half shut, and open. They must not rattle in the handle, nor open too hard, or too easily. The bolsters must show no scratches, nor file marks, and the blade rivet heads must not be visible. The covering must be closely fitted to the scales and bolsters, and must show no splits, file marks nor scratches, and the knife must be put so tightly together, that no light can shine through between the scales and springs.

To be continued.

For the American Railroad Journal.

Documents Relating to the Manufacture of Iron in Pennsylvania.

Published on behalf of the Convention of Iron Masters, which met in Philadelphia on the 20th of December, 1849.

Every one knows the difficulties which have heretofore embarrassed investigations into the condition of the iron manufacture in the United States, its history, and its relations to other branches of industry and to our revenue system. The great question of policy which has served at different periods to divide the public mind upon the subject of imposts, and which from its connection with several of the most important of our industrial products, has been the occasion of peculiar excitement in the hall of federal legislation, naturally drew to the support of the manufacturers of iron, all those persons whose interests and views of public economy favored the establishment of protective rates of duty. In the struggle for influence, general theories embracing all departments of manufacture were applied indiscriminately to each, and the reaction of opposing minds, as usual in such cases, urged into more vigorous antagonism all who participated in the controversy. Meantime, the statistics, which must be the basis of any sound opinions, and the analysis of which only could indicate the pure results of experience, were left the chances of private collection, and to the disturbing elements of partisanship. It will be remembered in illustration of the extreme consequences to which such a state of inquiry led, that while upon one side there was claimed an absolute protection, graduated by the actual necessities of the individuals engaged in the making of iron, and independent of the qualifications due to other interests, and to the history of foreign products; upon the other side, the economical doctrine of the subdivision of labor was fallaciously applied by direct inference to the family of nations; it was thought sufficient to cite the repeal of British protective enactments to prove the safety of a non-protective tariff for the United States; and the opening of British ports to our corn was thought an abundant compensation for the destruction of the home demand created by our furnaces, forges and mills.

During the prevalence of this blindness to the conditions of the subject, it is not remarkable that there should have been a disregard of the probabilities of legislation. Circumstances had thrown into the hands of that political party which is most frequently successful at the polls, the task of opposing the establishment of a system of protection; and as the occasional success of their antagonists was used for the enactment of impost laws favorable to the demands of the manufacturing classes, it is easy to understand that a vacillating policy was the effect at the seat of government. Improvident in relation to the perils attendent upon so unstable a support, or perhaps only too hopeful of such success as would impart to the public mind a timely confidence in their plan of encouragement to domestic interests, manufacturers freely embarked their capital and skill, until admonished of their error by a change of laws. Then a fresh effort, another change, another season of promise, and another check, furnished another lesson upon the hazards to which the too sanguine friends of home production were exposing themselves.

The unfortunate issue of these attempts, has forced upon the classes primarily concerned in them, a review of their grounds of enterprise, and a more careful and dispassionate consideration of their prosperity; in order to develope that just relationship of interests upon which all of their previous designs have depended; and to exhibit it to the legislature and to the community at large freed from the interfering objections which have hindered its appreciation by either.

Amongst the evidences of a return towards that medium line which, in public as well as private affairs, most frequently is the line of prudence, is the publication mentioned at the head of this paper. In the early part of December last a circular was issued by some well known manufacturers and dealers of iron, inviting the co-operation of parties interested in the business, at a meeting to be held at Philadelphia on the 20th of the same month. At the assembly thus convened, which was numerously attended, several committees were appointed, a part of the first of whose labors appears in the "documents." A memorial to Congress was prepared, and such facts were collected and arranged in tabular and argumentative form, as were thought best fitted to impress upon the government, and upon Americans generally, the reasoning and prayer of the memorial. It is no part of the present design to discuss the value of these contributions in the adjustment of the long-vexed question of protection. Our purpose is only to ask attention to some general considerations suggested by the convention; and to present a few of the facts collected in the tables. Putting out of view the controversial aspects of the case, there remains enough deeply to interest any one who seeks to be instructed in the rise and progress of domestic manufacture, and in the phases of opinion in relation to it. A paragraph of the memorial affords so clear an indication of the general tenor of the whole collection, that it will make the best introduction to it in this place:

"On a subject of such importance, involving so many interests, in a country so extended as ours, it is to be expected that honest differences of opinion will exist, and sectional, if not clashing claims will arise. The manufacturers of this country, whatever may be their troubles, must yield with all their fellow citizens. to that system of compromise on which all our institutions are adjusted. We cannot ask any legislation for our advantage unless it be, if not equally for the benefit, at least not injurious to the rest of the community. On this ground we are willing to base our present application for relief. We come, without distinction of party, and ask to be heard upon strictly national considerations, that if any enactment is consequent upon our petition, it may be regarded as permanent and not partial legislation. We ask not for relief to-day which may be withdrawn to-morrow; but for a settled policy. We ask to have the wisdom of all interests and all parties applied to the preparation of such a system as will be permitted to stand, subject only to the improvements which experience and time may indicate."*

A *compromise of interests*, and *stable legislation*, are the leading objects thus defined by the memorialists. In the adjustment which they regard as not only fair towards themselves but advantageous to other classes of citizens, they reject, as might have been anticipated, any impost *ad valorem*, which they describe as tending to aggravate the fluctuations of prices—to encourage frauds upon the revenue—to throw the importing business into dishonest hands—to confer a bonus on the consumption of inferior articles, and thus to degrade the national taste.† Adopting the principle of a specific tax, they nevertheless guard its application by the suggestion that "a system of revenue which would meet the low prices by a proportional increase of duty, and make provision for high rates by a like reduction, never excluding the foreign iron, would meet the exigencies of domestic industry, and greatly increase the revenue.‡"

To determine the rates for this sliding scale the memorialists content themselves with a very moderate standard; one which, however it may affect at any selected point of time the interests of consumers, cannot, upon the whole, materially change the amount of their expenditure. Adverting to the facilities enjoyed by British manufacturers for the control of the market, and to our experience of their ability and readiness to accumulate stock, or to throw it, at critical periods, amongst our own consumers; and also to the enormous fluctuations of British prices, and the consequent inducements to use all their resources of competition and self-preservation against us, while our manufacturers are unable either to foresee or to compensate the vicissitudes to which they are exposed, the memorialists say:

"The legislation asked by American manufacturers deserves not the odium so frequently heaped upon it. We know that we can furnish to the consumers of this country a million of tons of iron cheaper and better than it can be had abroad. We

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* Page 1.

† Page 20.—At page 101 is a table showing that in 1847 the specific form of duty was the ruling one in England in relation to foreign and colonial subjects. Of more than twenty millions of pounds net revenue from the customs, only about sixty-four thousand pounds were levied *ad valorem*.—Leaving out silks, the *ad valorem* duties amounted to less than £8,000! One-fifth of the total revenue is laid upon a single article from this country.

‡ Page 15.

ask for defence against those commercial fluctuations which occur in Great Britain from causes wholly originating there, and which, while they thrust down the prices of iron there far below the cost of making, throw large and irregular quantities into our ports, disturbing the regular course of industry here, breaking down our markets, and carrying ruin, at each such invasion, into many establishments."*

It is worthy of notice that this declaration and appeal are made in full view of the high price of labor in this country, in relation to which the tone of the "document" is healthy and such as becomes republicans.

"It is certain that in most countries where less rates are paid, a large mass of the population is in a state of destitution, and sunk to the lowest grade of human existence. In this country, where physical well-being is so easily attainable, should we not feed, clothe, and lodge our laborers in comfort and keep them out of the poor house? The wages now paid are only sufficient for this, and to enable the prudent to make some savings for sickness, reverses and old age. We are not, therefore, in favor of any system which contemplates a reduction of wages, and a consequent degradation of our working men."†

Yet the difference between the price of American and that of British labor must be compensated in some way before our products can be placed in advantageous competition with foreign articles.—Looking through the documents for an explanation of the views of the convention upon the limits of this compensation, we find one in the letter of Messrs. Cooper & Hewitt, which, being published without commentary, and agreeing with the general suggestions already quoted, we presume may be regarded as having the approbation of their associates.

"There is but one remedy left, to impose such a duty on foreign iron, as shall counterbalance the difference in the price of labor, first deducting from that difference any advantage which the American maker may have in the expense of getting his iron into market."‡

The remainder is stated to be just the quantity required to regulate the inequalities occasioned by the fluctuations of the foreign market. Hence, the memorialists say "sustain the domestic manufacture at the point of full production, and then admit the foreign article freely."§ Messrs. Cooper & Hewitt say that the duty proposed by them "would not prohibit foreign iron. It would not give the monopoly of the market to the American manufacturer, but it would establish a *fair competition*, and in the struggle that would ensue, the *consumer* would be sure to reap the harvest, in the gradual improvement of the quality and cheapening of the cost, in the average of years of this great staple article."*

The memorialists assume then, that if some support be not given to American manufacturers, they must abandon their works, except where their location in the interior gives a protection in the cost of transportation of British iron from the sea-board; that this abandonment must remove an important check upon British prices, and thus open the door to an increase of cost incident to a monopoly; and that, as a consequence, the loss to American consumers must be greater than any occasioned by the duty asked of our government; that it would therefore be fallacious to take as a standard for estimating the unfavorable effect of a tariff, the prices heretofore affixed to British iron, inasmuch as upon the failure of our iron works the foreign cost would rise to a greater degree than the rate of any probable impost would carry it.

The letter of Messrs. Cooper & Hewitt furnishes an estimate of duty, which we take, for the reason above given, to be satisfactory to other manufacturers. Assuming, very properly, that "the true cost of iron to the consumer, is not the price of today, or of last year, but its average price for a series of years," they state that the average price of bar iron in Liverpool from 1820 to 1849, *and for each period of ten years* during that time has been just £8. Taking forty per cent. as the *revenue* standard for iron of Mr. Secretary Walker,† they say:—

"We do not hesitate to declare that an advalorem duty of 40 per cent., the revenue standard on £8, the average cost, will compensate for the difference in the price of labor, and be entirely adequate to build up such a domestic production of iron, as, without excluding the foreign article from our markets, to keep a check upon its price, and insure on the average of years, the lowest possible price to the consumer."‡ It results then that no demand is presented for any impost beyond the revenue standard above stated, that in adjusting the value, no increase is asked upon the actual average price of iron in Liverpool for nearly 30 years past; and that in fact the substance of the recommendation is that, by a sliding measure, the inequalities of the revenue shall be corrected, and the duty, which has heretofore been variant, shall without enlargement of its average, be rendered steady from year to year. *The mode of collecting the duty*, therefore, rather than its amount, is the subject proposed for the action of the legislature; and the establishment of a merely equalising tariff is now conceded to be sufficient not only to counterpoise the difference between foreign and domestic labor, but to neutralise the influence of those fluctuations in the foreign market which have been so disastrous to our own producers.§ We are justified therefore in our opening suggestion that the attitude of manufacturers of iron is in some important respects a new one; and that it exhibits evidence of that coolness and moderation which are indispensable to the preparation of any permanent system of duties.

To be Continued.

* Page 6.—"It is frankly admitted that the consumer has a direct interest in keeping the market open for foreign iron, as a check upon the price of the domestic article. But no reasonable man will urge that to do this a system should be adopted which aggravates the fluctuating, or that because we import foreign goods, we ought to import at the same time, all the difficulties which have affected the price of those goods, such as Providential dispensations of famine and pestilence, on an uncontrollable spirit of speculation, as developed in the English railroad mania, or the evils of revolution resulting from the unjust political systems of Europe. In fact, the whole country is deeply interested, producers and consumers alike, in preventing their land from becoming a "sink," into which shall be emptied all the vials of wrath that are opened in the European world."—*Letter of Messrs. Cooper & Hewitt*, p. 65.

† Pages 9, 60.

‡ Page 61.

§ Page 16.

* Page 61.

† The reader will of course not confound this, which is Mr. Walker's standard of greatest productiveness, with the present rate of duty (30 per cent.) From the tenor of the letter cited in the text it may be inferred that even the latter rate, if adjusted by a sliding scale upon the basis of prices averaged for the year 1846, when the existing tariff was passed, would be acceptable to American makers.

‡ Page 62.

§ There are published with the documents two very interesting diagrams, furnished by the committee on statistics, showing the variations in the price of bar iron in Liverpool and of pig at Glasgow since the year 1822.

Massachusetts.

The Eastern Railroad.—The annual meeting of this corporation, for the choice of directors, etc., was held Monday forenoon in Cochituate Hall, Boston. The President, David R. Neal, in the chair.

The report of the directors was read by the President. The following are the important items:

Capital stock has been increased 1919 shares	191,900 00	
Floating debt	78,477 99	
Total increase of stock and debt		270,377 99
No change in the funded debt.		
Construction accounts have increased	7,595 31	
Property accounts have increased	262,782 68	
Total investment		270,377 99
Railway 30th June, 1849	3,120,391 67	
Property " "	444,644 67	
Balance " "	91,224 72	
		3,648,665 15
Railway 30th June, 1850	3,120,391 67	
Property " "	698,608 99	
Balance " "	100,042 48	
		3,919,043 14
Increase as above		270,377 99
Income from the business of the road, gross		497,461 30
Expense of maintaining and operating		182,848 60
Income from property	37,953 14	
Expenses on do	823 84	
Net		37,129 30
Total net income		351,742 00
Balance interest account		35,314 45
Balance		316,427 55
Two dividends of $4 per share in January and July, 1850		267,400 00
Surplus earnings		49,027 55

The gross income has increased from $490,006 92 in 1848-9, to $535,414 44 in 1849-50.

The expenses and interest have increased from $218,344 14 in 1848-9, to $218,986 89 in 1849-50.

The net income has increased from $271,662 78 in 1848-9, to $316,427 55 in 1849-50.

The renewal fund has been charged with the whole cost of the new track, laid the past year, and *with a sum sufficient to complete it* to Portsmouth, and has been balanced by a transfer from the existing surplus funds. The contingent fund has also been charged with the losses and damages paid or *estimated to be payable* for any accidents that have heretofore occurred, and has in like manner been balanced by the withdrawal of the necessary amount from the surplus earnings, and by $10,000 of the profits derived from the Portland, Saco and Portsmouth railroad. The whole amount necessary to complete the renewal of the track, and to meet any claims that are pending, having thus been provided for, all future appropriations to these funds will be reserved for future deterioration and contingencies.

AMERICAN RAILROAD JOURNAL.

Saturday, July 27, 1850.

Railroad Negotiations and Progress.

The principal transaction which has come to our knowledge since our last has been the negotiation of the Evansville city bonds to the amount of $100,000 and the purchase of iron for twenty-six miles of road. Various other parties are in the market, but the above is the only transaction reported.

The building of railroads is never to cease until a "better way" shall be provided. Even the Massachusetts people, who have done the most, suffered most from unwise investment, and feel the sorest upon the subject of railroads, are constantly starting new schemes, though most of them are designed to promote the advantage and increase the business of existing lines. A project which is now attracting considerable attention in that State, is a new trunk line to the Hudson. The following roads are to constitute the proposed line: the Boston and Maine to Lawrence, the Manchester and Lawrence, the New Hampshire Central, 10 miles of which is opened, and which is to be extended to Claremont. From that point, a short link of 15 or 20 miles will open a communication to the Rutland railroad, which is followed to Rutland, thence to various points on the Hudson, by different railroads in progress from that place. The friends of this project claim it to be decidedly superior to the Western, but as it is not opened, this is of course "begging the question." The project, however, looks well "on paper," and we have no doubt but it will be pretty speedily opened. It will prove an attractive route, and draw much business when opened.

The Railroad Convention to be held in Portland, *Maine*, on the 31st inst., to secure the construction of a line of railway from Waterville, the most easterly point of the Maine railroad extension, to the eastern part of Nova Scotia, is attracting great attention. The Provinces are thoroughly aroused to the importance of this work, and will, we are satisfied, give to it all their energies. The convention is to be represented on their part by their very first men. This scheme is the one exactly suited to their wants, and will be so regarded by them, and as the people believe that a railroad is the only means that can restore to them former prosperity, and as a failure of the proposed line would be regarded as virtually "giving up the ship," we feel satisfied that they will provide the means by Provincial guaranty, if in no other way, for their part of the line. The portion in Maine will, we presume, be surveyed at the expense of the State. The question of "means" will not be agitated till these preliminaries are disposed of.

The *Atlantic and St. Lawrence* is progressing rapidly. The road is to be opened this fall to Bethel, a distance of about 70 miles from Portland, and the grading is going on upon other parts.

The *Kennebec and Portland*, which now conveys its passengers from North Yarmouth to Portland, over the Atlantic and St. Lawrence, is to have their line completed to the city in a few weeks. The depot of this company is to be on the north side of the town. The above companies will then have parallel lines for 12 miles, on account of difference of gauges—that of the At. and St. Law. being 5½ feet, and the K. and P. 4 feet 8½ inches. The extension of the latter road from Brunswick to Augusta, probably depends upon the subscription of leading Kennebec towns through which it is to run. The Legislature will probably authorise the towns to subscribe, but it is feared that a two-third vote will be required to make the subscription.—This cannot be obtained in many of them. We think, however, only a majority will be required. The Legislature of Maine has authorised the city of Portland to issue its bonds to the amount of $500,000 in favor of the Atlantic and St. Lawrence railroad, in addition to $1,000,000 already issued, making a railroad debt of $1,500,000 for a city of not over 20,000 inhabitants. The road, however, is doing a fine business, and promises to be able to pay the interest on these bonds, which readily sell at par.

Some of the New Hampshire railroads have taken a new start, the Legislature having authorised them to "issue bonds," the previous law not allowing this privilege, nor the issue of new stock below par. This will secure the construction of the *Boston, Concord and Montreal* to Well's river, and the Portsmouth and Concord. The movement above alluded to, to open a new route to Boston will, we presume, give a new impulse the *Central*, which is to form a part of this line. The Cocheco, which proposes to connect with the Boston, Concord and Montreal, will, we presume, make another attempt to extend its line.

Disturnell's Railroad, Steamboat and Telegraph Guide, is a work with which our readers are no doubt familiar. The number for July is accompanied by a large and elegant map of all the railroad and telegraph lines in the United States, which is worth more than the whole price of the work. Mr. Disturnell has long been engaged in compiling works of a similar kind, and his extensive knowledge of every part of the country, united with his accuracy and untiring industry, is sufficient guaranty for the correctness of the present volume.

List of Railroads in the U. States in 185.

We give in this number what we believe to be a complete statement of the number of miles of railroad for passenger transportation in the United States. In New England and New York we have given the exact number of miles in each State, as we had means of ascertaining the distance traversed by the several roads in each. In some of the other States we have not gone into this exact division, and lines that are put down in one State and in some cases extend into others.

There is a large extent of *coal* road in Pennsylvania which is not embraced in the table.

On most of the roads the fare and rates per mile are given.

	Miles.	Fares.	Rates per m.
MAINE.		$ cts.	cts.
Androscoggin and Kennebec	55	1 50	2·73
Atlantic and St. Lawrence*	47	1 40	2.97
Buckfield branch	12	35	2·91
Bangor and Piscataquis	12	38	3·16
Kennebec and Portland*	25	75	3·00
Bath branch	9	25	2·77
Portland, Saco and Portsmouth	51	1 42	2·78
Calais and Baring	3		
Machiasport	8		
Boston and Maine	3		
	225		
NEW HAMPSHIRE.			
Boston, Concord and Montreal*	51	1 65	3·03
Cocheco* (Dover to Farmington	18	50	2·77
Concord†	35	80	2·28
Concord and Claremont*	25	90	3·60
Contoocook Valley*	14	45	3·21
Franklin and Bristol	13	35	3·69
Great Falls and Conway*	9	20	2·22
Manchester and Lawrence	26	65	2·50
New Hampshire Central*	10	30	3·00
Northern (Concord to W. Lebanon)	69	2 00	2·89
Portsmouth and Concord*	18	50	2·77
Sullivan	25	75	3·00
Wilton	18		
Cheshire	43		
Eastern	16		
Nashua and Lowell	5½		
Nashua and Worcester	7		
Great Falls branch	3		
	405½		
VERMONT.			
Connecticut and Passumpsic Riv.	40	1 25	3·10
Rutland and Burlington	120	3 60	3·00
Vermont Central	117	3 40	2·90
Connecticut River	10		
	287		
MASSACHUSETTS.			
Berkshire	21		
Boston and Lowell†	26	65	2·50
Woburn branch	2		
Boston and Maine, (74 in all)	36	1 85	2·53
Medford branch	2		
Lawrence branch	3½		
Boston and Providence, (43 in all)	37½	1 25	2·90
Branches	12		
Stoughton branch	4		
Boston and Worcester	45	1 15	2·55
Brookline branch	1½		
Milford branch	13	30	2·50
Newton branch	1½		
Saxonville branch	4	12	2·40
Millbury branch	4	15	3·75
Cape Cod branch	27	90	3·21
Cheshire, [54 in all	11	1 65	3·05
Connecticut River	50	1 50	3·00
Chicopee Falls Branch	2½		
Dorchester and Milton	3		
Eastern, Boston to Portsmouth, (54 in all)	38½	1 50	2·77
Marblehead branch	3		
Gloucester branch	13½	40	3·00
Salisbury branch	3½	10	3·00
Essex (Salem to Lawrence)	20	60	2·85
Fall River	42	1 05	2·50
Fitchburg*	51	1 30	2·60
Watertown branch	5		
Other branches	3½		
Fitchburg and Wor., (26 in all)	14	75	2·88
Lexington and West Cambridge	6½	30	3·75
Lowell and Lawrence	13	35	2·69
Nashua and Lowell, (15 in all)	9½	40	2·66
New Bedford and Taunton	31	90	2·90
Branch	1		
Newburyport and Georgetown	8		
Norfolk County, (36 in all)	26	1 00	2·85
Norwich and Worcester, (66 in all)	17	1 25	2·00
Old Colony (Boston to Plymouth)	37½	1 12	3·02
Bridgewater branch	8	25	3·57
Peterboro' and Shirley	12	30	2·50
Pittsfield and North Adams	20	60	3·00
Providence and Wor., (43½ in all)	26½	1 30	3·02
Quincy	3		
South Shore	11½	35	2·91
Stockbridge and Pittsfield	25	75	3·00
Stony Brook	17	40	2·35
Western, Boston to Albany, (200 in all)	117	5 00	2·50
West Stockbridge	2½		
Worcester and Nashua, (45½ in all.	38	1 25	2·77
Springfield and Hartford, (62 in all.	5		
Vermont and Massachusetts	59	1 75	2·53
	993½		
CONNECTICUT.			
Canal railroad*	45	1 50	3·12
Collinsville branch	8	25	3·00
Hartford, Providence and Fishkill*	45	88	2·00
Housatonic	74	2 00	2·70
Naugatuck	62	1 50	2·63
New Haven, Hartford and Spring.	57	1 75	2·82
Middletown branch	10	30	3·00
N. London, Willimantic and Pal.	48	1 25	2·60
New York and New Haven	47	1 50	1·98
Stonington	5½	1 50	3·00

Norwich and Worcester	49		
	450¼		
RHODE ISLAND.			
Providence and Worcester	17		
Stonington	44¼		
	61¼		
NEW YORK.			
Albany and Schenectady	17	40	2·94
Albany and West Stockbridge	38¼	95	2·50
Attica and Buffalo	31½	90	2·90
Auburn and Rochester	78	2 50	3·20
Auburn and Syracuse	26	80	3·07
Buffalo and Niagara Falls	22	75	3·40
Buffalo and Black Rock	3		
Cayuga and Susquehanna	28	1 90	3·00
Chemung	17¼	50	2·33
Hudson and Berkshire	31½	1 00	3·03
Hudson River*	75	1 00	1·33
Lewiston	3¼		
Lockport and Niagara Falls	24	75	4·12
Long Island (Brooklyn to Green't)	98	2 00	2·10
New York and Erie*	294		
N.Y. to Piermont, *S. B. route*, (25 miles)		6 15	2·04
Newburgh Branch	10	45	2·36
New York and Harlem*	80	1 65	2·06
Northern,* (Rouse's Point to Chateaugay)	41		
Oswego and Syracuse	35	1 00	2·85
Rensselaer and Saratoga	25	75	3·00
Saratoga and Washington	39½	1 50	3·75
Schenectady and Saratoga	22	75	3·40
Schenectady and Utica†	78	2 25	2·84
Skaneateles	5		
Tonawanda, (Batavia to Attica)	43½	1 30	3·03
Troy and Greenbush	6	15	2·50
Troy and Schenectady	20¼	50	2·50
Tioga Coal and Iron railroad	15		
N. York and N. Haven, [76 in all.	15		
Syracuse and Utica	53		
	1285¼		
NEW JERSEY.			
Burlington and Mt. Holly	6	25	4·09
Camden and Amboy	62		
Amboy to N. York., steamboat route, (28 miles)		3 00	3·33
Trenton Branch	6		
Morris and Essex	36	1 00	2·77
New Brunswick and Trenton	29		
New Jersey	31	50	1·61
New Jersey Central	36		
Paterson and Hudson	17	50	3·00
Ramapo and Paterson	16	50	3·30
	239		
PENNSYLVANIA.			
Alleghany and Portage	36		
Beaver Meadow	26		
Carbondale and Honesdale	16		
Columbia and Philadelphia	82	2 37	2·88
Westchester Branch	9	25	2·77
Corning and Blossburg	25	1 50	3·75
Cumberland Valley	56	2 12	3·78
Hazleton and Lehigh	10		
Little Schuylkill	20	75	3·75
Mine Hill	12	50	4·00
Mount Carbon	7		
Pennsylvania* 134	97	4 00	3·50
Phil., Reading and Pottsville†	92	3 50	3·80
Phil. and Norristown	17	40	2·35
Germantown Branch	6	15	2·50
Phil. and Trenton	30	75	2·50
Phil. Wil. and Balt.	98	3 00	3·06
Schuylkill Valley	14		
Summit Hill and Mauch Chunk	9	25	2·77
Whitehaven and Wilkesbarre	20		
Williamsport and Elmira	25	1 25	5·00
Franklin	22		
Philadelphia and Westchester	11		
	740		
DELAWARE.			
New Castle and Frenchtown	16	75	4·68
MARYLAND.			
Annapolis and Elkridge	21	90	4·28
Baltimore and Ohio*	179	7 00	3·91
Washington Branch	31	1 40	4·50
Frederick Branch	3		
Baltimore and Susquehanna	71	2 12	3·00
Westminster Branch	10		
	315		
VIRGINIA.			
Appomattox	10	50	5·00
Central Virginia	71	3 66	5·15
Chesterfield	12		
Greenville and Roanoke	21	50	2·38
Petersburg	63	1 50	2·38
Richmond, Fred. and Potomac	76		
Richmond and Petersburg	22	1 00	4·54
Winchester and Potomac	32	2 00	6·25
	307		
NORTH CAROLINA.			
Gaston and Raleigh	87	4 00	4·59
Wilmington and Weldon	162	5 00	2·50
	249		
SOUTH CAROLINA.			
Columbia and Greenville	22		
South Carolina	136	5 00	3·67
Columbia Branch	68	2 70	4·00
Camden Branch	38	1 50	4·00
	262		
GEORGIA.			
Central Georgia	191	5 75	3·00
Georgia	171	5 00	2·92
Macon and Western	101	4 00	3·96
Western and Atlantic	140	4 20	3·00
Athens branch	39		
Rome branch	18		
	660		
ALABAMA.			
Montgomery and West Point	68	3 50	5·14
Tuscumbia and Decatur	44		
	112		
MISSISSIPPI.			
Vicksburg and Jackson	60	2 75	4·58
LOUISIANA.			
Clinton and Port Hudson	24	1 00	4·16
Mexican Gulf	27	50	1·85
Milneburg and Lake Ponchartrain	6	12	2·00
New Orleans and Carrolton	6	15	2·50
West Feliciana	26	1 50	5·76
	89		
KENTUCKY.			
Lexington and Ohio	28	1 00	3·57
Louisville and Frankfort*	27		
	55		
ILLINOIS.			
Galena and Chicago*	42	1 25	2·97
Sangamon and Morgan	55	2 25	4·00
	97		
INDIANA.			
Madison and Indianapolis	86	2 50	2·90
Shelbyville Branch	16	50	3·01
	102		
OHIO.			
Cleveland and Columbus*	26		
Dayton and Springfield	25		
Little Miami	84	2 50	2·97
Mad River and Erie	134	4 50	3·35
Mansfield and Sandusky	56	1 50	2·67
Xenia and Columbus	54	1 64	3·03
Findlay Branch	20		
Erie and Kalamazoo	15		
	414		
MICHIGAN.			
Detroit and Pontiac	25	1 00	4·00
Michigan Central	218	6 50	2·98
Tecumseh branch	8		
Michigan Southern	66		
	317		

* Railroads unfinished, July, 1850.

† Double track.

RECAPITULATION.

	Miles.
Maine	225
New Hampshire	405¼
Vermont	287
Massachusetts	993¼
Rhode Island	61½
Connecticut	450¼
	2423
New York	1285¼
New Jersey	239
Pennsylvania	740
Delaware	16
Maryland	315
Virginia	307
North Carolina	249
South Carolina	262
Georgia	660
Alabama	112
Mississippi	60
Louisiana	89
Kentucky	55
Illinois	97
Indiana	102
Ohio	414
Michigan	317
	5319
	2423
Total	7742

Adding to the above the various coal roads in the country, would give an aggregate of about 8,000 miles.

The whole amount expended upon roads in operation cannot be far from $300,000,000.

New York takes the lead in the extent of her roads, and will probably maintain her position as the first Railroad State in the Union, for an *indefinite* period. Ohio will soon follow as the second, Pennsylvania the third, and Georgia the fourth.—Massachusetts must soon lose her relative position from the smallness of her territory. Connecticut bids fair to have the most in proportion to her area and population.

It is difficult to ascertain the extent of railroads in progress. It cannot, we think, be less than 5000 miles. Every year increases the number of the projects; and unless the demand which they make upon the capital of the country should have the effect to cripple their operations, it is difficult to estimate the extent to which these works will be carried in the next ten years.

Railway Consolidation.

The preliminary arrangements for the consolidation of the Auburn and Syracuse and Auburn and Rochester railway companies, have been perfected, the articles of association having been executed, so that on the 1st of August the Rochester and Syracuse railroad company will supersede the two existing corporations and go into full effect.

The Rochester Advertiser says: "the directors named in the new articles of association are—H. B. Gibson, Charles Seymour, Henry Fellows, William J. B. Mercer, Jacob Gould, E. Darwin Smith, Nathaniel Thayer, William F. Weld, R. H. Ives, John Wilkinson, Joseph B. Varnum, W. J. Van Allen and Thos. Y. How."

☞ Judge Hall, President of the Evansville and Illinois railroad company, has just closed a contract with a mercantile houses in this city for railroad iron to complete the road from the city of Evansville to Princeton, a distance of nearly twenty-seven miles. We understand that the iron is to be shipped from a port in Europe, between this and the 1st of December next, and is to be delivered at

New Orleans; it is to be paid for in bonds issued by the city of Evansville, running ten, fifteen and twenty years, bearing seven per cent. interest, payable semi-annually in this city. The law that authorises the issuing of these bonds, requires a tax to be assessed on the taxables in the city of an amount sufficient to pay the interest as it falls due, and to create a sinking fund to redeem the principal when due. The rapid growth of the city of Evansville, its great increase in wealth and population, must render these bonds as good stock as can be found in the market.

Life of Richard Trevithick, C. E.

BY HYDE CLARKE, ESQ.

RICHARD TREVITHICK was the son of a Cornish engineer, and born, we believe, at Camborne, in Cornwall. He was brought up for the pursuits he followed, in the usual way, as a clerk or assistant in the mine counting house, having as one of his colleagues Richard Griffiths, now the chief government engineer in Ireland.

Shortly after 1790, he joined and assisted Wm. Bull, a Cornish engineer. Bull had been a workman engaged in erecting Watt's engines in Cornwall,* and when the warfare of the mine owners began to defeat Watt in his patent rights, Bull was one of the engineers employed to fight the battle, and construct engines, which should be beyond the patent. Having obtained the assistance of Trevithick, many engines were made under their united direction, and erected in the county. In 1792, Trevithick was employed to report on one of Hornblower's engines at Tincroft mine, near Redruth. On this he reported, that the duty of Hornblower's engine was 16 to 10 over Watt's.

At this time the most bitter feeling prevailed in reference to Watt's patent rights. The mine owners, when they had derived the benefit of the improvement, grudged the remuneration, and the Cornish engineers, with the strong local feeling which then prevailed, looked with anything but pleasure on the intrusion of foreigners in what they considered their country. The Cornish engineers participated to some extent in this feeling, and were arrayed, as a man, in the contest with Watt, in which they were made the tolls of the dirty and greedy practices of the mine owners. The Watt party were able to retaliate in time, and their northern adherents have exercised a serious retribution; for whenever the name of a Cornish engineer comes before them, they never fail to decry his claims, and to blacken his reputation. This in a great degree accounts for the great neglect of Trevithick, whose share in the Watt quarrel was never forgiven or forgotten, particularly when he became the decided champion of the high pressure system.

The history of the Cornish engineers, with the exception of Mr. Stuart's "Anecdotes of the Steam Engine," an excellent and impartial book, has been written only by the Cornishmen themselves, and the valuable treatise, by Professor Pole, on the Cornish Engine, the Appendix G. to Weale's "Tredgold," must be looked upon as a Cornish work. Thus, but scanty and partial justice has been awarded to such men as Richard Trevithick, Arthur Woolf, Jonathan Hornblower, Andrew Vivian, Jabez Carter, Henry Vivian, Captain Joel Lean, and William Sims. On the life of Richard Trevithick no book has yet been published, and there are only two memoirs by the author of the present, one in the second volume of the *Civil Engineer and Architect's Journal*, and one in the fifth volume of the *Railway Register*, though we hope this will be supplied, as the Institute of Civil Engineers have offered a prize for a memoir of the great engineer.

After Trevithick's partnership with William Bull had come to a close, he engaged in another with Andrew Vivian, an engineer. Andrew Vivian is said to have been a cousin of Trevithick's and was the monied partner in the concern, which was carried on at Camborne. In 1802, Trevithick and Vivian, in co-partnership, took out a patent for the application of the high pressure principle in the steam engine. This is the era from which the high pressure engine, in its various forms, takes date, and it deserves a little attention at our hands.

This patent is also the first one taken out for a locomotive engine, and the specification is dated March 24, 1802. The patent is described "as for improving the construction of steam engines, and the application thereof for drawing carriages on rails and turnpike roads, and other purposes." It is said that their engine will produce "a more equable rotary motion on the several parts of the revolutions of any axis which is moved by the steam engine, by causing the piston rods of two cylinders to work on the said axis, by means of cranks at a quarter turn assunder." The steam was proposed to be worked high pressure or not.* If the former, at a pressure from 60 to 80 lbs. on the square inch, and the boiler was made of a cylindrical form, to bear the expansive action of strong steam, having a bent tube, like the letter U within it, to increase the heating surface. The furnace was placed within the boiler, as now in the common marine boiler. To get a greater draught in the smoke flue, it was proposed occasionally to blow the fire with bellows, worked by the piston or crank of the engine. The cylinder of the engine was immersed in the boiler, as has since been frequently done.

As a provision against explosion, when high pressure steam was used, a *second* safety valve was provided, not under the control of the engine driver, a plan which is now adopted with every locomotive engine.

The introduction of Trevithick's improvement gave increased power to steam, and it is of that importance, that Stuart, no mean authority on historical points, and not likely, from national sympathy, to underrate low pressure, or overrate high pressure, is inclined to date the era of the steam engine from this invention.† In the establishment of the locomotive, in the developement of the powers of the Cornish engine, and in increasing the capabilities of the marine engine, there can be no doubt that Trevithick's exertions have given a far wider range to the dominion of the steam engine than even the great and masterly improvements of James Watt effected in his day.

That Trevithick's application was original there can be no doubt. He had never heard of Leupold, nor of Oliver Evans, nor was he likely to do so until the close of his life. It is the opinion of the best authorities—and it is only contested, without any reason assigned, by Dr. Alban—that Trevithick was the true inventor of the high pressure engine.

Watt conceived the application of high pressure steam, but was unable to carry it out; he also, in 1769, conceived the use of the locomotive, but never attempted to make one. In 1787, Symington is said to have shown a model. A little later, William Murdoch, then living at Redruth, likewise constructed a model. This, no doubt, Trevithick saw. Oliver Evans also had an idea of applying steam for locomotion. The first locomotive, however, which was made, was that by Trevithick, and it was run by Trevithick and Vivian from Camborne to Plymouth. On the road, whilst the vehicle was at the top of its speed, and had just carried away part of the rails of a gentleman's garden, Captain Vivian saw ahead of them a closed tollbar, and called to Captain Trevithick, who was behind, to slacken speed, which he did, and at length came dead up on the right side of the gate, which was opened, like lightning, by the toll keeper. "What have us got to pay here?" asked Captain Vivian. The poor toll keeper, trembling in every limb, and his teeth chattering in his head, strove to answer, "Na-na-na-na." "What have us got to pay, I say?" "Na—noth—nothing to pay! My de—dear Mr. Devil, do drive on as fast as ever you can! Nothing to pay!"‡

On arriving at Plymouth, the carriage was shipped in a vessel belonging to a Captain Vivian, and carried to London, where it was run in the streets.

The engine used was about the size of an orchestra drum, and was attached to a phaeton, before the back wheels. With this carriage an experiment was made in Lord's cricket ground, at Marylebone, several men of science alternately steering it, and expressing their perfect satisfaction as to the ease with which it was directed.* Hence it was steered down the New Road, and Gray's Inn Lane, to the coach builder's, whence the phaeton had been obtained. Thus, as has been remarked, it passed over ground since the site of Hancock's experiments, and perhaps destined, in the end, to witness the great triumph of steam locomotion on the common road. The day after the first trial, Trevithick took the small engine, and exhibited it in a cutler's shop, working the machinery which was part of his course of experiment, to show the applicability of the principle for various purposes.

At a subsequent period a temporary tram road was constructed within an enclosure, on the ground now occupied by Euston square and the London and Northwestern railway, close to that spot where the genius of a Stephenson was one day to complete the triumph of the railway locomotive system. We hope the day is not far distant when, on the magnificent propylæum of the terminus, we shall see statues of Trevithick and Stephenson looking down on the scene of their peaceful glories.

The tram road was opened to the public as an exhibition, and on the road, which was of a elliptical form, Trevithick ran his locomotive. Crowds went to see him; but on the second day, Trevithick, in a freak, removed the engine and closed the place. This he is said to have done under the impression that it was better to let the affair drop until he saw a fitting opportunity to avail himself of it advantageously.*

In 1804, Trevithick and Vivian constructed a locomotive for the Merthyr Tydvil railway, in South Wales, to move railway carriages. It was the first railway locomotive. The cylinder was placed horizontally, as in locomotives now used. The heads of the piston rod and connecting rod were divided or forked, leaving room for the motion of the extremity of the crank, and giving motion to it, fixed on an axle tree; on this axle cog wheels were placed, working into cog wheels on the axle of the hind wheels.† This locomotive engine had only one cylinder of eight inches diameter; whereas, since, the power of the locomotive has been increased to two cylinders of eighteen diameter. In most essential particulars, this engine resembled those now in common use.‡

At its first trial, Trevithick's locomotive drew, on a level plane, as many carriages as carried ten tons of bar iron a distance of nine miles, without requiring any fresh supply of water, travelling at the rate of five miles an hour.

Trevithick sent another locomotive to Mr. Blackett, at Wylam, the birthplace of George Stephenson, but this likewise, through some blunder, failed, and was set to blow a cupola in an iron furnace. In 1814, Mr. Blackett made another on the same plan, which worked, and on which Geo. Stephenson founded his improved plan.

In February, 1806, Trevithick, in a letter to Mr. Davies Gilbert, states that he was about to enter into a contract with the Trinity Board for lifting the ballast out of the bottom of the Thames, for all the shipping. The first quantity stated was 300,000 tons a year, but they afterwards stated 500,000 tons a year. He was to do nothing but wind up the chain, for 6d. per ton, which was then done by men, who never lifted it above 25 feet high. A man could then get up ten tons for 7s.; whereas, Trevithick considers that his engine at Dolcoath lifted above 100 tons that height with one bushel of coals.

He had then two engines already finished for that purpose, and was to be in town in about fifteen days (that is on the 5th March, 1806§), to set them to work. The contract was to be for twenty-one years, and he expressed himself satisfied with the terms. What became of Trevithick's ballast-engines we do not know, but we believe litigation ensued.

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* Pole on the Cornish Engine, Appendix G. to Tredgold, p. 87.

* Richie on Railways, p. 205.

† Historical and Descriptive Anecdotes of the Steam Engine, by R. Stuart.

‡ Colridge's Six Months in the West Indies.

* Civil Engineer and Architect's Journal, vol. 2, p. 94.

† Ritchie on the Steam Engine, p. 207.

‡ Nicholson's Journal, vol. 12, p. 1.

§ This arrival seems to have been delayed, as in another letter. See Appendix G. to Tredgold.

At this time Trevithick had received orders for nine engines within a month, all for Cornwall, and he expected orders for four more.

He was then engaged on a railway, as appears from one of his letters.

From the same source we learn that a person in Wales owed him £6000 for patent premium, and disputed his patent.

To be continued.

Railroad Iron.

THE Undersigned, Agents for Manufacturers, are prepared to contract for the delivery of English, Welsh and Scotch Rails, of any pattern and weight, also for every description of Welsh, Scotch and Swedish Iron, Railway Chairs and Spikes, Rivets, Bolts, Nuts, Washers, Chain Cables, Anchors, Tin Plates, German Spelter, Iron Castings, and every description of Machinery. WILLIAM BIRD & CO.,
Iron and Tin Plate Merchants,
44 Wall st., New York.
And at 5 Martin's Lane, London,
and 140 Buchanan st., Glasgow.

July 27th, 1850.

MINING AGENCY.
Capt. O. H. Matthews,

Civil and Mining Engineer, F. G. S., London, etc.

HAVING completed his three years engagement on Lake Superior, is open to negotiate for another appointment as Mining Agent, or Superintendent of Mines. Also, to give his opinion and advice upon Mineral Lands, to Buyers and Sellers of Stock, or to be consulted on any section in this important branch of national industry.

The most implicit confidence may be relied on, and immediate attention given to all communications (pre paid). Address Capt. O. H. Matthews, T ronto,

July 27th, 1850. 3m

Coal.

CUMBERLAND SEMI-BITUMINOUS COAL superior quality for Locomotives, for sale by
H. B. TEBBETTS,
No. 40 Wall St., New York.

May 12, 1849. 1m19

FARMERS! ATTENTION !!
John Mayher & Co's
NEW AGRICULTURAL WAREHOUSE
AND SEED STORE,
197 WATER STREET, NEW YORK.

Where they have for Sale, the largest and most complete assortment of Farming Implements, ever offered for sale in this city—all of which they will sell 10 per cent. Cheaper than the same kind of Goods can be bought at any other house in the city. Our Goods are all Warranted to give satisfaction.

FARMERS wanting to purchase, will please call and examine our *Stock* before buying elsewhere.

Among our assortment may be found the Celebrated Highest Premium Eagle Ploughs! together with all the most approved Ploughs now in use.

Also,—Horse Powers, Threshing Machines, Fan Mills, Corn Shellers, Straw Cutters, Corn Mills, Seed Sowers, Churns, Ox Yokes, Ox Scrapers, Hay Rakes, Horse Rakes, Patent Chain Pump (that never freezes nor rusts), and other Pumps; in fact we have everything for Farming Purposes—together with Guano, Bone Dust and other Fertilizers.

JOHN MAYHER & CO.,
197 Water st., N. Y.

February 9, 1850.

N.B.—J. M. & Co. also continue their Old Stand, at 195 Front street, near Fulton Market.

To the Proprietors of Rolling Mills and Iron Works.

THE Undersigned—Proprietors of Townsend's Furnace and Machine Shop, Albany—are extensively engaged in the manufacture of Machinery and fixtures for Iron, and Copper Rolling Mills, and Iron Works. Having paid particular attention to the manufacture of *Rolls* (Rollers), both *chilled* and *dry-sand*, they feel confident that they can execute orders for such castings in a satisfactory manner. And to give assurance of this, they beg leave to refer to the following named persons, proprietors and managers of some of the most extensive rolling mills in the country, viz: Jno. F. Winslow, J. Tuckerman, H. Burden, W. Burtt, J. & J. Rogers, Saltus & Co., J. B. Bailey, L. G. B. Cannon, Hawkins & Atwater, etc., etc.

F. & T. TOWNSEND.

Albany, August 16, 1849.

Gloucester Iron Works,
GLOUCESTER, NEW JERSEY,
NEARLY OPPOSITE PHILADELPHIA.

THE subscribers having made extensive alterations in their works, are now prepared to receive orders for all kinds of Stationary and Marine Engines, Boilers, Locomotives, Sugar Mills, and every description of Mill Work.

Also—Orders for Iron and Brass Castings executed with despatch.

Having secured the valuable services of Mr. David Matthew as Superintendent (who has been for five years foreman in the Iron Works of John Watchman, now the Vulcan Works, Baltimore, and for 12 years superintendent of the Mohawk and Hudson and the Utica and Schenectady Railroads, New York,) they feel confident that all orders entrusted to them will be faithfully executed.

Having an extensive Wharf in front of their works, it will afford a safe harbor for all classes of steam vessels that may require repairs during the winter.

C. M. & J. C. SITER.

Gloucester, July 24, 1850. 1m.

Ray's Patent India Rubber Car Springs.

Savannah, Ga., May 22, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: I have no hesitation in saying, after having used on our road your springs and Fuller's, that I consider yours decidedly the best in every particular, and in this opinion I am sustained by all our officers. Fuller's spring has a tendency to split, and also to chafe or abrade by the constant friction on the cast iron plates or disc: and in my opinion is not near so elastic as yours.

Your springs, which have been in use on our road for 12 or 15 months past, and in constant use under both passenger and freight cars, are to all appearances as elastic, sound and good, as when first put in use.

We are now building eigty-five new cars, of which for fifty-sets the springs have been ordered of you.

GEORGE A. ADAMS,
Master Carpenter,
Central Railroad and Banking Co. of Georgia.

—

Connecticut River Railroad Office,
Northampton, May 4, 1850.

E. CRANE, Esq.,

Dear Sir: It is now about two years since I first tried the experiment of using a set of Ray's India-rubber Springs upon one of our merchandise cars, and although the car has been in constant service since that time, I do not on examination find the slightest difference either in the thickness or elasticity of the material.

The same result has followed wherever we have applied them, either for wheel or draw springs on Engines, Tenders or Cars. At present we use no other; either in replacing old springs or building new cars—and I am perfectly satisfied that for economy durability, safety, and ease of motion, that Ray's India-rubber is the best article for Springs which has been presented to the public.

Yours respectfully, J. HUNT,
Supt. Connecticut River Railroad.

—

EDWARD CRANE, Esq.,

Dear Sir: Having applied to cars of the Boston and Worcester Railroad Corporation, Ray's Vulcanised Rubber Springs (where they have been in use for some two years last past), I have had occasion to observe their operation, and am free to say in answer to your inquiries, that they retain their *elasticity* perfectly during all changes of atmospheric temperature: and are in my opinion a most valuable acquisition to Railroad Cars—are not liable to derangement, as is the case with steel springs; while at the same time it costs less to apply them. Respectfully yours,

D. N. PICKERING,
Supt. Motive Power, Bost. & Wor. Railroad.

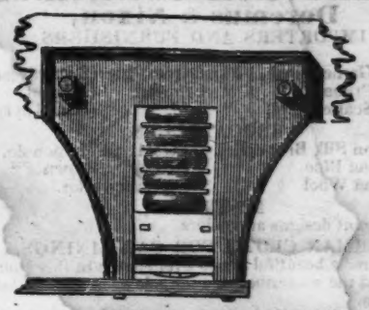
Boston, April 15th, 1850.

Ibbotson, Brothers & Co's
CELEBRATED CAST STEEL
AND
Best Cast Steel Royal Improved Files, well known as better adapted for Engineers' and Machinists' purposes than any now in use in the United States.

Every description of Square, Octagon, Flat and Round Cast Steel, Sheet, Shovel and Railway Spring Steel, etc., and Steel to order for any purposes—manufactured at their works in Sheffield—and universally known by the old stamp "Globe."

HENRY J. IBBOTSON, Agent.,
218 Pearl st., New York.

FULLER'S PATENT INDIA RUBBER SPRING.



THESE SPRINGS ARE THE CHEAPEST, the lightest and most durable of any yet known. They are easily applied to new or old cars, and there is small possibility of any accident occurring to them.

Other parties through Mr. Ray set up claims to an India Rubber Spring which, though the same in principle, is very inferior in its working and durability.—Actions are in progress for an Infringement on Fuller's Patent against parties using that Spring.

The superiority of Fuller's Spring over that claimed by Mr. Ray is fully established and has frequently been testified to. The following are from gentlemen who have had much experience with both Springs.

—

"It will afford me pleasure to recommend your springs to the companies in this region, in preference to Ray's which I am confident are inferior in mechanical arrangement to yours." JOHN M'RAE,
Engineer S. Carolina R. R., Charleston.

—

"I do not hesitate to allow you to say that I concur in Mr. M'Rae's opinion that Ray's springs are inferior in mechanical arrangement to Fuller's. I repeatedly expressed that opinion long before Mr. M'Rae had seen your springs (as I believe) and entertain it still." WM. PARKER,
Gen'l Supt. of Baltimore and Ohio R. R.

—

Office of Sup't Norwich & Worcester R.R Co.
December 26, 1849.

"I most fully concur in the opinion of Jno. McRae, Engineer of S. Carolina Railroad, that 'Rays Springs are inferior to Fuller's Springs;' and shall with pleasure recommend them to all Railroad Companies for adoption. I have used both springs on this road and have no hesitation in saying that I should in all cases prefer Fuller's Spring."

SAM'L H. P. LEE, JR.,
Sup't and Engineer.

—

Office B. & P. R. R. Co.,
Boston, 20th December, 1849.

"This company have cars fitted up with both Ray's and Fuller's 'Metallic India Rubber Springs,' and I do not hesitate to say that Fuller's arrangement is *very much superior* to Ray's.

W. RAYMOND LEE, Supt.

—

The following result has been obtained by experiment upon one railroad.

A set of Trucks fitted with Steel Springs cost	$190·77	and weigh	2355 lbs.
The same with Fuller's Springs, . . .	131·71	"	1911 lbs.
Difference, . . .	$59·06	"	444 lbs.

Not only is there an advantage in the cost, but owing to the great reduction in weight, the car can be made lighter throughout, and so an enormous saving in weight may be effected in a Train.

AGENTS.
G. M. KNEVITT, 38 Broadway, N. Y.,
JOHN THORNLEY, 110 Chestnut St., Philad.
The BOSTON BELTING CO., Milk st., Boston.

January 2, 1850.

American Cast Steel.

THE ADIRONDAC STEEL MANUFACTURING CO. is now producing, from American iron, at their works at Jersey City, N.J., Cast Steel of extraordinary quality, and is prepared to supply orders for the same at prices below that of the imported article of like quality. Consumers will find it to their interest to give this a trial. Orders for all sizes of hammered cast steel, directed as above, will meet with prompt attention.

May 28, 1849.

RAILROAD CAR AND COACH TRIMMINGS.

Doremus & Nixon,
IMPORTERS AND FURNISHERS
HAVE FOR SALE

Plain Garnet Plush.	Fig. Garnet Plush (Butterfly pat.
" Crimson "	" Crimson " (Elegant.
" Scarlet "	" " " (Gen. Taylor.

BROCATELLES.

Crimson Silk Brocatelles. Gold and Maroon do.
Gold and Blue " " Brown "
Silk and Wool " of every color.

MOQUETTS,
Of elegant designs and colors.

GERMAN CLOTH FOR CAR LININGS.
The most beautiful goods ever shown in this country, and the subscribers are the sole agents for the sale of them.
Oil cloths Enamelled with Gold. } These goods can be
" " Silver. } furnished in any
Do. Silver ground velvet printed. } dimensions req'd.

CURLED HAIR
Of every description and quality.
JNO. W. A. STRICKLAND, Agent.
New York, 1850. 1y16

ENGINEERS.

Atkinson, T. C.,
Alexandria and Orange Railroad, Alexandria, Va.

Bancks, C. W.,
Civil Engineer, Vicksburg, Miss.

Buckland, George,
Troy and Greenbush Railroad.

Clement, Wm. H.,
Little Miami Railroad, Cincinnati, Ohio.

Cozzens, W, H.,
Engineer and Surveyor, St. Louis, Mo.

Alfred W. Craven,
Chief Engineer Croton Aqueduct, New York.

Davidson, M. O.,
Eckhart Mines, Alleghany Co., Maryland.

Fisk, Charles B.,
Cumberland and Ohio Canal, Washington, D. C.

Felton, S. M.,
Fitchburgh Railroad, Boston, Mass.

Floyd-Jones, Charles,
South Oyster Bay, L. I.

Gzowski, Mr.,
St. Lawrence & Atlantic Railroad, Montreal, Canada.

Gilbert, Wm. B.,
Rutland and Burlington Railroad, Rutland, Vt.

Grant, James H.,
Nashville and Chattanooga R. R., Nashville, Tenn.

S. W. Hill,
Mining Engineer and Surveyor, Eagle River, Lake Superior.

Holcomb, F. P.
Southwestern Railroad, Macon, Ga.

Johnson, Edwin F.
New York and Boston Railroad, Middletown Ct.

Latrobe, B. H.,
Baltimore and Ohio Railroad, Baltimore, Md.

Miller, J. F.,
Worcester and Nashua Railroad, Worcester, Mass.

Morris, Elwood,
Schuylkill Navigation, Schuylkill Haven, Pa.

Morton, A. C.,
Atlantic and St. Lawrence Railroad, Portland, Me.

McRae, John,
South Carolina Railroad, Charleston, S. C.

Nott, Samuel,
Lawrence and Manchester Railroad, Boston,

Prichard, M. B.,
East Tennessee and Georgia R. R., Cleveland, Tenn.

Roebling, John A.,
Trenton, N. J.

W. Milnor Roberts,
Bellefontaine and Indiana Railroad, Marion, Ohio.

Roberts, Solomon W.,
Ohio and Pennsylvania Railroad, Pittsburgh, Pa.

Sanford, C. O.,
South Side Railroad, Virginia.

Schlatter, Charles L.,
Northern Railroad (Ogdensburg), Malone, N. Y.

Sours, Peter,
Rahway, New Jersey.

Stark, George.,
Bost., Con. and Mont. R. R., Meredith Bridge, N. H.

Steele, J. Dutton,
Pottstown, Pa.

Trautwine, John C.,
Panama Railroad—Address through office of Panama Railroad Co., 78 Broadway, N. Y.

Trimble, Isaac R.,
Philad., Wil. & Baltimore Railroad, Wilmington, Del.

Tinkham, A. W.,
United States Fort, Bucksport, Me.

Thomson, J. Edgar.,
Pennsylvania (Central) Railroad, Philadelphia.

Troost, Lewis,
Alabama and Tennessee Railroad, Selma, Ala.

Whipple, S.,
Civil Engineer and Bridge Builder, Utica, N. Y.

Williams, E. P.,
Auburn and Schenectady Railroad, Auburn, N. Y.

Williams, Charles H.,
Milwaukie, Wisconsin.

HOTELS.

MANSION,
Corner of Maine and Exchange Streets,
P. DORSHIMER. *BUFFALO.*

GUY'S
United States Hotel,
(Opposite Pratt street Railroad Depot,)
BALTIMORE.
JOHN GUY. *WILLIAM GUY.*

American Hotel,
Pratt street, opposite the Railroad Depot,
BALTIMORE.
HENRY M. SMITH.....Proprietor.
Late of the Exchange & St. Charles Hotels, Pittsburg.

Washington Hotel,
BY JOHN GILMAN,
$1 *Per Day.*
No. 206 Pratt street, (near the Depot,)
BALTIMORE.

Barnum's City Hotel,
MONUMENT SQUARE, BALTIMORE.
This Extensive Establishment, erected expressly for a Hotel, with every regard to comfort and convenience, is situated in the centre and most fashionable part of the city, and but a few minutes' walk from the Railroad Depots and Steamboat Landings.
The House has lately undergone a thorough repair, embracing many valuable improvements, and will accommodate 250 Guests. BARNUM & CO.

JONES' HOTEL,
NO. 152 CHESTNUT STREET,
PHILADELPHIA.
BRIDGES & WEST, ... Proprietors.

Fountain Hotel,
LIGHT STREET, BALTIMORE,
P. THURSTON.....Proprietor.

DUNLAP'S HOTEL,
On the European Plan,
NO. 135 FULTON STREET,
Between Broadway and Nassau St.,
NEW YORK.

BUSINESS CARDS.

J. T. Hodge
Will attend to the examination of mining tracts near Lake Superior, and prepare Reports and Maps.
Address, during the Summer,
Ontanagon Postoffice, Lake Superior.

Cumberland Steam Coal,
FROM THE
FROSTBURG MINES, MD.
H. A. TUCKER,
Agent of Frostburg Coal Co.
No. 50 Wall Street, New York.

Eaton, Gilbert & Co.,
Railroad Car, Coach and Omnibus Builders,
TROY, N. Y.

Nathan Caswell,
METAL BROKER, 69 WALL ST., N.Y.
For the Purchase and Sale of Railroad Iron (new and old,) Boiler Plates, Pig and Bar Iron, Lead, Tin, Copper, Spelter, etc. Refers to
Messrs. Boorman, Johnston, & Co., New York.
" Grinnell, Minturn & Co., "
" Barston, Pope & Co., "
" Earps & Brink, Philadelphia.
" E. Pratt & Brother, Baltimore.
John Barstow, Esq., Providence.
Lewis Bullard, Esq., Boston.
February 9, 1850. 6m*

United States Railroad Guide and Steamboat Journal.
CONTAINING OFFICIAL TIME ADVERTISEMENTS, Tables of Stations, Distances, Fares, Time, etc., with much miscellaneous matter for the travelling public. Price 12 cents a copy. Yearly subscription $1. Published at 43 Ann street, New York.

STEEL AND FILES.
R. S. Stenton,
20 CLIFF STREET, NEW YORK,
AGENT FOR
J. & Riley Carr's
BAILEY-LANE WORKS, SHEFFIELD,
Manufacturers of Cast, Shear, German and Blister
STEEL
Of all descriptions. *Warranted* Good
FILES.
Manufacturers of Machinists' Warranted Best Cast Steel *Files*, expressly for woring upon Iron and Steel, made very heavy for recutting.
☞ A full Stock of *Steel* and *Files* at all times on hand. 6m4

Walter R, Johnson,
CIVIL AND MINING ENGINEER AND ATTORNEY for Patents. Office and Laboratory, F St., opposite the Patent office, Washington, D. C.

Dudley B. Fuller & Co.,
IRON COMMISSION MERCHANTS,
No. 139 GREENWICH STREET,
NEW YORK.

Manning & Lee,
GENERAL COMMISSION MERCHANTS,
NO. 51 EXCHANGE PLACE,
BALTIMORE.
Agents for Avalon Railroad Iron and Nail Works. Maryland Mining Company's Cumberland Coal 'CED —'Potomac' and other good brands of Pig Iron.

Cop Waste.
CLEAN COP WASTE, suitable for cleaning Railroad, Steamboat and Stationary Engines, constantly on hand and for sale by
KENNEDY & GELSTON,
5½ Pine St., New York.
October 27, 1849, 3m

Railroad Car Manufacturer's Furnishing Store.
F. S. & S. A. MARTINE,
IMPORTERS AND MANUFACTURERS OF
RAIL ROAD CAR & CARRIAGE LININGS,
PLUSHES, CURTAIN MATERIALS, ETC.,
112 WILLIAM ST., NEAR JOHN.
3-4 and 6-4 Damasks, Union and Worsted; Moreens, Rattinetts, Cloths, Silk and Cotton Velvets, English Buntings

Samuel Kimber & Co., COMMISSION MERCHANTS
WILLOW ST. WHARVES, PHILADELPHIA.
AGENTS for the sale of Charcoal and Anthracite Pig Iron, Hammered Railroad Car and Locomotive Axles, Force Pumps of the most approved construction for Railroad Water Stations and Hydraulic Rams, etc., etc.
July, 27, 1849.

James Herron, *Civil Engineer,*
OF THE UNITED STATES NAVY YARD,
PENSACOLA, FLORIDA.,
PATENTEE OF THE
HERRON RAILWAY TRACK.
Models of this Track, on the most improved plans, may be seen at the Engineer's office of the New York and Erie Railroad.

To Railroad Companies.
—WROUGHT IRON WHEELS—
SAFETY AND ECONOMY.
NORRIS' LOCOMOTIVE WORKS,
SCHENECTADY, NEW YORK,
Are Manufacturing Wrought Iron Driving, Truck, Tender, and Car Wheels—made from the best American Iron. Address E. S. NORRIS.
May 16, 1849.

George O. Robertson, BROKER IN SCOTCH AND AMERICAN PIG IRON;
Bar Iron, Lead, Spelter, Tin, Copper, etc.,
No. 4 Liberty Place, MAIDEN LANE,
(Near Broadway,)
NEW YORK

Manufacture of Patent Wire ROPE AND CABLES,
For Inclined Planes, Suspension Bridges, Standing Rigging, Mines, Cranes, Derrick, Tillers, &c., by
JOHN A. ROEBLING, Civil Engineer,
TRENTON, N. J.

Doremus & Harris,
ANALYTICAL & CONSULTING CHEMISTS,
179 BROADWAY, NEW YORK.
SCHOOL OF CHEMISTRY.

To Engineers and Surveyors.
E. BROWN AND SON Mathematical inst. makers No. 27 Fulton Slip, New York, make and keep for sale, Theodolites, Levelling inst., Levelling rods, Surveyors Compasses, and Chains, Cases of Mathematical drawing insts. various qualities, together with a general assortment of Ivory Scales and small insts. generally used by Engineers.

Ranstead, Dearborn & Co.,
MANUFACTURERS OF
LOCOMOTIVE CRANKS AND CAR AXLES,
ALSO
WROUGHT IRON SHAFTING,
And All Kinds of Hammered Shapes.
Forge at Commercial Point, Dorchester,
Office 25 Foster's Wharf, opposite No. 211 Broad St.
BOSTON.

Henry J. Ibbotson,
IMPORTER of Sheffield and Birmingham Goods. Also, Agent for the Manufacture of Telegraph Wire. 218 PEARL ST., NEW YORK.

Cumberland, (Md.,) Coals for Steaming, etc.
ORDERS RECEIVED FOR AND FILLED by J. COWLES, 27 Wall St., N. Y.

Samuel D. Willmott,
MERCHANT, AND MANUFACTURER OF
CAST STEEL WARRANTED SAWS,
—AND FILES—
IMPORTER OF THE
GENUINE WICKESRLY GRINDSTONES
NO. 8 LIBERTY STREET,
NEW YORK.

IRON.

Railroad Iron.
3,000 TONS C. L. MAKE 63½ lbs. per yard, now landing and to arrive.
Also contracts made for future delivery of above superior make English Iron.
300 Tons Banks Best Iron, Round, Square and Flat.
200 " English Bar " " " "
10 " 9-16 Square Iron for Railroad Spikes.
For sale in lots to suit purchasers by
DAVID W. WETMORE.
New York, March 26, 1850. 3m

Railroad Iron.
THE Undersigned, Agents for Manufacturers, are prepared to contract to deliver Rails of superior quality, and of any size or pattern, to any ports of discharge in the United States.
COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Railroad Iron.
1,500 Tons weighing 58 lbs. per lineal yard.
500 " " 57 " "
500 " " 56 " "
500 " " 60 & 61 lbs, "
Also 2½x½ flat rails. All the above being of approved patterns. For sale by
DAVIS, BROOKS, & CO.,
68 Broad street.
N.B.—Rails imported on commission, or at a fixed price.

Iron.
Pig Iron, Anthracite and Charcoal; Boiler and Flue Iron, Spring and Blistered Steel, Nail Rods, Best Refined Bar Iron, Railroad Iron, Car Axles, Nails, Stove Castings, Cast Iron Pipes of all sizes, Railway Chairs of approved patterns' for sale by
COLEMAN, KELTON & CAMBELL,
109 N. Water St., Philadelphia.

IRONDALE PIG METAL, MANUFACTURED and for sale by the Bloomsburg Railroad Iron Co.
LINDLEY FISHER, Treasurer.
75 N. Water St., Philadelphia.

Railroad Iron.
2000 Tons, weighing 58 pounds per lineal yard, of the most approved pattern of T rails, in store and to arrive, for sale by
COLLINS, VOSE & CO.,
74 South St.
New York, June 1, 1850.

Railroad Iron.
1675 Tons, weighing about 61 lbs. per yard, 90 tons, weighing about 52 lbs. per yard, and 825 tons, weighing about 53½ lbs. per yard, of the latest and most approved patterns of T rail, for sale by
BOORMAN, JOHNSTON & CO.,
119 Greenwich street.
New York, Feb. 25, 1850.
N.B.—B., J. & Co are also prepared to take contracts for English rails, delivered in any of the Atlantic ports of the Unitad States.

Railroad Iron.
THE UNDERSIGNED, HAVING made arrangements abroad, are prepared to contract for the delivery of Foreign rails, of approved brands upon the most favorable terms.
They will also make contracts for American rails, made at their Trenton works, from Andover Iron, in whole or in part, as may be agreed upon.
They are prepared to furnish Telegraph, Spring and Market Wire; Braziers and Wire Rods; Rivets and Merchant Bars to order, all made exclusively from Andover Iron. The attention of parties who require iron of the *very best* quality for special purposes, is respectfully invited. COOPER & HEWITT,
17 Burling Slip, New York.
February 15, 1850.

Glendon Refined Iron.
Round Iron, Band Iron, Hoop Iron,
Square " Flat " Scroll "
Axles, Locomotive Tyres,
Manufactured at the Glendon Mills, East Boston, for sale by GEORGE GARDNER & CO.,
5 Liberty Square, Boston, Mass.
Sept. 15, 1849. 3m37

PATENT HAMMERED RAILROAD, SHIP & BOAT SPIKES.—The Albany Iron Works have always on hand, of their own manufacture, a large assortment of Railroad, Ship and Boat Spikes from 2 to 12 inches in length, and of any form of head. From the excellence of the material always used in their manufacture, and their very general use for railroads and other purposes in this country, the manufacturers have no hesitation in warranting them fully equal to the best spikes in market, both as to quality and appearance. All orders addressed to the subscribers at the works will be promptly executed.
JOHN F. WINSLOW, *Agent.*
Albany Iron and Nail Works, Troy, N. Y.
The above Spikes may be had at factory prices, of Erastus Corning & Co Albany; Merritt & Co., New York; E. Pratt & Bro., Baltimore, Md.

LAP—WELDED
WROUGHT IRON TUBES
FOR
TUBULAR BOILERS,
FROM ONE AND A QUARTER TO SEVEN INCHES IN DIAMETER.
THE ONLY Tubes of the same quality and manufacture as those so extensively used in England, Scotland, France and Germany, for Locomotive, Marine and other Steam Engine Boilers.
THOMAS PROSSER & SON, Patentees,
28 Platt street, New York.

Railroad Iron.
THE UNDERSIGNED ARE PREPARED TO contract for the delivery of English Railroad Iron of favorite brands, during the Spring. They also receive orders for the importation of Pig, Bar, Sheet, etc. Iron. THOMAS B. SANDS & CO.,
22 South William street,
February 3, 1849. New York.

Iron Store.
THE Subscribers, having the selling agency of the following named Rolling Mills, viz: Norristown, Rough and Ready, Kensington, Trindelphia, Pottsgrove and Thorndale, can supply Railroad Companies, Merchants and others, at the wholesale mill prices for bars of all sizes, sheets cut to order as large as 58 in. diameter; Railroad Iron, domestic and foreign; Locomotive tire welded to given size; Chairs and Spikes; Iron for shafting, locomotive and general machinery purposes; Cast, Shear, Blister and Spring Steel; Boiler rivets; Copper; Pig iron, etc., etc.
MORRIS, JONES & CO.,
Iron Merchants,
Schuylkill 7th and Market Sts., Philadelphia.
August 16, 1849. 1y33

Railroad Iron.
THE MOUNT SAVAGE IRON WORKS, Alleghany county, Maryland, having recently passed into the hands of new proprietors, are now prepared, with increased facilities, to execute orders for any of the various patterns of Railroad Iron. Communications addressed to either of the subscribers will have prompt attention. J. F. WINSLOW, *President*
Troy, N.Y.
ERASTUS CORNING, Albany.
WARREN DELANO, Jr., N.Y.
JOHN M. FORBES, Boston.
ENOCH PRATT, Baltimore, Md.
November 6, 1848.

Railroad Iron.
THE SUBSCRIBERS ARE PREPARED TO take orders for Railroad Iron to be made at their Phœnix Iron Works, situated on the Schuylkill River, near this city, and at their Safe Harbor Iron Works, situated in Lancaster County, on the Susquehannah river; which two establishments are now turning out upwards of 1800 tons of finished rails per month.
Companies desirous of contracting will be promptly supplied with rails of any required pattern, and of the very best quality.
REEVES, BUCK & CO.
45 North Water St. Philadelphia.
March 15, 1849.

Monument Foundry.

A. & W. DENMEAD & SON,
Corner of North and Monument Sts.,—Baltimore,
HAVING THEIR
IRON FOUNDRY AND MACHINE SHOP
In complete operation, are prepared to execute faithfully and promptly, orders for
Locomotive or Stationary Steam Engines,
Woolen, Cotton, Flour, Rice, Sugar Grist, or Saw Mills,
Slide, Hand or Chuck Lathes,
Machinery for cutting all kinds of Gearing.
Hydraulic, Tobacco and other Presses,
Car and Locomotive patent Ring Wheels, warranted,
Bridge and Mill Castings of every description,
Gas and Water Pipes of all sizes, warranted,
Railroad Wheels with best faggotted axle, furnished and fitted up for use, complete

☞Being provided with Heavy Lathes for Boring and Turning Screws, Cylinders, etc., we can furnish them of any pitch, length or pattern.

☞ Old Machinery Renewed or Repaired—and Estimates for Work in any part of the United States furnished at short notice.

June 8, 1849.

Iron Wire.

REFINED IRON WIRE OF ALL KINDS, Card, Reed, Cotton-flyer, Annealed, Broom, Buckle, and Spring Wire. Also all kinds of Round, Flat or Oval Wire, best adapted to various machine purposes, annealed and tempered, straightened and cut any length, manufactured and sold by

ICHABOD WASHBURN.

Worcester, Mass., May 25, 1849.

Wheel, Forge and Foundry Iron.

LOCUST GROVE Wheel Iron of great strength and superior chilling property.

Balt. Charcoal Forge Iron, from Patuxent, Curtis Creek and Gunpowder furnaces.

Elkridge Foundry Iron, of superior strength and softness. Anthracite and Charcoal Iron from Pennsylvania and Virginia. Gas and Water Pipes, Lamp Posts from Elkridge furnace.

LEMMON & GLENN,
6m9 62 Buchanan's Wharf, Baltimore.

S. S. Keyser & Co., IRON WAREHOUSE,

Corner of Sout and Pratt Streets,
BALTIMORE, MD.

Selling Agents for the Rough and Ready Bar Iron and Elk Boiler and Flue Iron Rolling Mills, Sarah and Taylor Furnaces, and Wrightsville Hollow Ware Foundry, and Dealers in Bar and Sheet Iron, and Cast, Sheer, German, Blister, Spring and Electerised Steel, etc., etc.

Smith & Tyson,

GENERAL COMMISSION MERCHANTS,
No. 25 South Charles St., Baltimore, Md.

AGENTS for the Celebrated Columbia Pig Iron, suitable for Car Wheels and Chilled Rolls.

Columbia refined Charcoal Blooms; Refined Charcoal Juniatta Billet Iron for Wire; Refined Iron for Bridging, of great strength; Cut Nails, Spikes, and Brads; Railroad Spikes and Wrought Chairs. 22tf

Stickney & Beatty,

DEALERS IN IRON AND IRON MANUFACTURERS.

AGENTS for the Balt. City Rolling Mill, from which establishment they are prepared to furnish Ellicott's round, square, and flat bar iron, puddled and charcoal boiler plates and billet iron—also agents for the sale of the Laurel and Maryland (Balt.) charcoal forge pig irons, Balt. hard iron for chilling wheels, anti-Eatam nails, Catoctin foundry iron, boiler blooms from the Caledonian works, Wm. Jessop & Son's cast steel, Coleman's blister steel and nail rods, hoop, band, sheet, oval and common English iron.

Nos. 18 and 20 South Charles st., Baltimore.

Railroad Iron.

CONTRACTS made by the subscribers, agents for the manufacturers, for the delivery of Railway Iron, at any port in the United States, at fixed prices, and of quality tried and approved for many years, on the oldest railways in this country.

RAYMOND & FULLERTON, 45 Cliff st.

Iron.

THE SUBSCRIBERS having resumed the agency of the New-Jersey Iron Company, are prepared to execute orders for the different kinds and sizes of Iron usually made at the works of the company, and offer for sale on advantageous terms.—

150 tons No. 1 Boonton Foundry Pig Iron.
100 " No. 2 do. do. do.
300 " Nos. 2 & 3 Forge do. do.
100 " No. 2 Glendon do. do.
140 " Nos. 2 & 3 Lehigh Crane do do.
100 " No. 1 Pompton Charcoal do.
100 " New-Jersey Blooms
50 " New-Jersey Faggoting Iron, for shafts

Best Bars, ¼ to 4 inch by ¼ to 1 inch thick.
Do do Rounds and Squares, ¼ to 3 inch.
Rounds and Squares, 3-16 to 1 inch.
Half Rounds, ¼ to 1 in. Ovals & Half Ovals ¼ to 1½ in.
Bands, 1½ to 4 inch. Hoops, ¼ to 2 inch.
Trunk Hoops, ¼ to 1½ in. Horse Shoe & Nut Iron.
Nail Plates. Railroad Spikes.

DUDLEY B. FULLER & Co., 139 Greenwich-st. and 85 Broad-st.

WILLIAM JESSOP & SONS' CELEBRATED CAST-STEEL.

The subscribers have on hand, and are constantly receiving from their manufactory,
PARK WORKS, SHEFFIELD,
Double Refined Cast Steel—square, flat and octagon.
Best warranted Cast Steel—square, flat and octagon.
Best double and single Shear Steel—warranted.
Machinery Steel—round.
Best and 2d gy. Sheet Steel—for saws and other purposes.
German Steel—flat and square, "W. I. & S." "Eagle" and "Goat" stamps.
Genuine "Sykes," L Blister Steel.
Best English Blister Steel, etc., etc., etc.

All of which are offered for sale on the most favorable terms by WM. JESSOP & SONS,
91 John street, New York.

Also by their Agents—
Curtus & Hand, 47 Commerce street, Philadelphia.
Alex'r Fullerton & Co., 119 Milk street, Boston.
Stickney & Beatty, South Charles street, Baltimore.
May 6, 1848.

JOHNSON, CAMMELL & Co's Celebrated Cast Steel,

AND
ENGINEERING AND MACHINE FILES,

which for quality and adaptation to mechanical uses, have been proved superior to any in the United States. Every description of square, octagon, flat and round cast steel, sheet, shovel and railway spring steel, best double and single shear steel, German steel, flat and square, goat stamps, etc. Saw and file steel, and steel to order for any purposes, manufactured at their Cyclops Steel Works Sheffield.

JOHNSON, CAMMELL & CO.,
100 William St., New York.
November 23 1849.

Railroad Iron.

OF ANY PATTERN AND WEIGHT,
Of a Favorite Brand,
And deliverable in Bond, or Duty paid, at any Port of the U. S., contracted for on favorable terms, by

CHARLES ILLIUS,
20 Beaver St., New York.

Pig and other Iron also contracted for. Sole Agent for "*Baxter's Machine and Burning Oil*"—particularly adapted for "*Railroads*" and other Machinery—Preferred to Sperm by the many now using it, and 25 *per cent. cheaper.*

CUT NAILS OF BEST QUALITY, BAR IRON (including Flat Rails) manufactured and for sale by FISHER, MORGAN & CO.,
75 N. Water St., Philadelphia.

Ogden & Martin's ROSENDALE CEMENT.

WE are prepared to enter into arrangements for supplying our Cement for public works or other purposes. We warrant the cement equal in every respect to any manufactured in this country. It attains a great degree of hardness, setts immediately under water, and is a superior article for masonry coming in contact with water, or requiring great strength.

For sale in tight barrels, well papered, at their office by OGDEN & MARTIN, 104 Wall st.

February 16, 1850. ly*

The above cement is used in most of the fortifications building by government.

Railroad Iron.

B. O. Railway Tires, Railway Wheels,
Scotch Pig Iron, Tin Plates and Banca Tin,
Muntzs Patent Metal Sheathing,
Baltimore Copper.

Contracts for Rails made on behalf of the manufacturers, for delivery at any ports in the United States, at fixed prices.

Bowling Tires and Tire Bars and Scotch Pigs imported to order.

Muntz's Ship-sheathing, and a general stock of Tin Plates and Banca Tin in store, and for sale by

RAYMOND & FULLERTON, 45 Cliff st.

Bowling Iron. Stamped B.O.

Railway Tire Bars	Rivet Iron
Locomotive and other Axles	Locomotive Frame do
Boiler Plates	Bars.

and every other description of this superior Iron.

The subscribers, agents for the sale of Bowling Iron, are prepared to execute orders for importation, especially for railway and machinery uses, with despatch from the manufacturers.

RAYMOND & FULLERTON, 45 Cliff st.

Lovegrove's Patent Cast Iron Water and Gas Pipes.

THE Subscriber, the Inventor and Patentee of the Centrifugal mode of giving form to metallic substances while in a molten state, is preparing to make Cast Iron Water and Gas Pipes, of any dimensions, at prices much lower than they can be made in the old manner, and the pipes warranted to stand a pressure of three hundred pounds to the square inch, and to be soft enough to drill. Steam Engines and all kinds of machinery. Cast Iron Doors and Frames, and Mill Castings of every description, made to order.

THOMAS LOVEGROVE,
Machinist and Founder,
West Falls Avenue, below Pratt st., Baltimore.

Rosendale Cement.

THE NEWARK AND ROSENDALE LIME AND CEMENT CO. are now manufacturing at their works in NEWARK, N. J., and Ulster county, N.Y., a very superior article of *Hydraulic Cement*—also Lime Calcine Plaster, etc. Contractors and dealers will find it to their advantage to call or make application before purchasing elsewhere. All communications addressed to the subscriber, at Newark, N.J., will be punctually attended to.

ly*15 HENRY WILDE, Secretary.

Railroad Instruments.

THEODOLITES, TRANSIT COMPASSES, and Levels, with Fraunhoffers Munich Glasses, Surveyor's Compasses, Chains, Drawing Instruments, Barometers, etc., all of the best quality and workmanship, for sale at unusually low prices, by

E. & G. W. BLUNT,
No. 179 Water St., cor. Burling Slip.
New York, May 19, 1849.

American Railway Guide,

AND POCKET COMPANION FOR THE
UNITED STATES;

CONTAINING Correct Tables, showing the time for starting of trains from all stations, distances, fares, etc., on all the Railway lines in the U. States; also many of the principal Steamboat and Stage routes—accompanied by a complete RAILWAY MAP. Price, single copies 12½ cts., or $1 per annum. Published on the first of every month, corrected from returns furnished by the Railway Superintendents throughout the Union.

This book has been compiled somewhat on the plan of Bradshaw's Guide, with such improvements in size, form and arrangement as have seemed desirable; and the publisher confidently hopes it will not be found liable to the objections of incompleteness and incorrectness, which have been made, and justly too, against various other similar works heretofore issued.

The subscriber having had the management of the NEW YORK PATHFINDER almost from its commencement, has enjoyed superior facilities in obtaining information relating to the thoroughfares of travel, and is therefore well qualified to prosecute with success the arduous undertaking of furnishing a complete and correct national guide book.

STRINGER & TOWNSEND, General Agents, 222 Broadway: and sold also by Booksellers and Periodical Dealers generally throughout the country; also on all the Railways and Steamboats.

CURRAN DINSMORE, Publisher.

N. Y. Pathfinder Office,
138 Fulton St., New York City.

Great American Engineering

AND MECHANICAL WORK, just published in medium folio, 75 cts. to Subscribers, One Dollar to non-subscribers.

Part VI of "Specimens of the Stone, Iron and Timber Bridges, Viaducts, Tunnels, &c. &c. of the United States Railroads." By George Duggan, Architect and Civil Engineer.

The present part contains beautifully executed plans, elevations and sections of the Timber Bridge (three spans of 150, and one span of 160 feet) across the Delaware at Saw Mill Rift, on the line of the N. York & Erie R. R., with the specifications, estimates, bills of timber, iron, etc.

N.B.—With the present (6th) part, are given specimen Plates of the APPENDIX, (or "THEORETICAL AND PRACTICAL TREATISE ON BRIDGE BUILDING, etc. etc.") consisting of plans, elevations, sections and details of a cast iron oblique arch, 130 feet span, across Fairfield st. Manchester, on the line of the Manchester and Birmingham Railroad. Also a specimen sheet of the letter press of the APPENDIX, consisting of an introductory article on the *Application of Iron to Railroad Structures.*

"It is a work that was a great desideratum, and must prove of great benefit to the engineering profession generally, and especially to the tyro in practical engineering and mechanical knowledge; in truth it strikes us, that it would require years of labor and patient toil on the part of a young engineer to prepare the drawings, and collect the information that will be embodied in this work, and can now be secured for the trifling sum of $9"—[Scientific Amer. March 16, 1850.

In connection with this subject (Iron Railroad Structures) we take occasion to call attention again to Mr. Duggan's valuable and expensive publication, exhibiting drawings, with full descriptions of the various stone, iron and wooden bridges, viaducts, tunnels, culverts, etc., of all the Railroads in the United States. Mr. Duggan is an accomplished Architect and Civil Engineer, who came from Ireland to this country to exercise his profession; but finding Railroad construction here, in many respects, different from that he had been accustomed to in Europe, he applied himself to the study of our system; and the fruits of his researches and investigations embodied in this work, are well calculated to meet the exigencies of engineers, and to assist draughtsmen, bridge builders, mechanics and students.—[N. Y. Journal of Commerce, Feb. 14, 1850.

Published by GEORGE DUGGAN,
300 Broadway, New York.

To whom all communications should be addressed, and subscriptions forwarded.

FOWLER M. RAY'S
Patent India-rubber Railroad CAR SPRING.

New York and Erie Railroad Shops.
Piermont, March 26, 1850.

This will certify that from practical experience in the use of Fowler M. Ray's India rubber Car Springs, I believe them to be far superior to any others now in use.

I have never known them to be affected by any change of temperature, as other Rubber Springs have been affected on this road.

I am at the present time repairing a Passenger Car that Mr. Ray and myself mounted with his springs about two years and eight months since.

The springs are at the present time as perfect, to all appearances, as when first applied to the car.

Respectfully yours,
HORACE B. GARDNER,
Foreman of the Car Shops.

—

Supt. Office N.Y. & H. R.R.,
New York, March 8, 1850.

This is to certify that we have used the Rubber Springs manufactured by Mr. F. M. Ray for the past twenty months, "both for Passenger and Freight Car Springs and Bumpers, and of different sizes," and have in every case given entire satisfaction, and I consider them the best spring now in use

M. SLOAT, Supt.

—

Boston, March 5, 1850.

In answer to your enquiry about India-rubber Springs, I have to say that we have used them to a considerable extent on both freight and passenger cars, and also on several of our tenders; and I am very well satisfied that they answer all the purposes for which they are intended. I believe the India-rubber will soon supersede all other springs for cars and tenders.

Yours truly, S. M. FELTON,
Supt. Fitchburg Railroad.

Office New Jersey Railroad Co.,
Jersey City, March 8, 1850.

FOWLER M. RAY, Esq.,

Dear Sir: In answer to your enquiries respecting the operation of the Vulcanised Rubber Springs, purchased by our company from you some two years since, I reply that they are superior to any spring in use, (that I have either seen or heard of).

The improved form of your spring, consisting of a solid piece of vulcanised rubber with bands on the outside, is far superior to your first form, consisting of disks of rubber with metallic plates interposed.

The last named form was tried, if you recollect, at a much earlier period; and then was replaced by your last form.

I have no hesitation in saying that your springs have given entire satisfaction, and most cheerfully recommend them to railroad companies throughout the country for the following reasons:

1st. The cost is 30 per cent. less.

2d. Saving of weight on each car of 8 wheels from 700 to 800 lbs.

3d. Less care and attention is required, as they are not liable to get out of repair.

4th. A great saving is secured in the wear and tear of the cars and rails from their great elasticity.

5th. The freedom from noise.

6th. There is greater safety in case of accident, as they cannot be broken.

7th. The comfort of passengers is enhanced sufficiently to pay the expense, waiving all the other reasons that I have given.

Should this fail to satisfy any person enquiring, you are at liberty to refer to me, No. 150 Washington St., Jersey City. Yours respectfully,

T. L. SMITH, Supt.

—

New York, March 11, 1850.

I have used the Patent India-rubber Spring purchased of Mr. Ray, upon the cars of the New York and New Haven Railroad, and have found them efficient and economical; and when applied to the axles and draw springs, believe them to be quite equal to any in use. I have found a combination of these springs with a steel spring under the transom beam a very satisfactory arrangement, and am now using this plan in all new cars. Yours respectfully,

ROBERT SCHUYLER.

—

February 25, 1850.

From practical observation of the use of the India-rubber Car Springs, manufactured and sold by your company, we are entirely satisfied in their application, and do not hesitate to recommend them as elastic, durable, requiring no repairs for years, and retaining their consistency during all extremes of weather. We have applied them for the past two years, and consider them superior for all railroad purposes.

Yours truly,
OSGOOD BRADLEY, Car Builder, Worcester.
T. & C. WASON, do. Springfield.
DEAN, PACKARD & MILLS, do. do.
DAVENPORT & BRIDGES, do. Cambridgeport.

—

Office of the New Jersey Railroad Co.,
Jersey City, March 7, 1850.

This is to certify that we have had Mr. F. M. Ray's India-rubber Springs in constant use under our cars, and as Bumper Springs for upwards of two years, and they have in every way given perfect satisfaction.

The present form of spring we deem far superior to the form of Disk, having used both forms, although we have none of those made in Disks at present in use.

We take pleasure in recommending these springs to all railroad companies.

J. P. JACKSON, Vice Prest.
New Jersey Railroad and Trans. Co.

—

Roxbury, February 28, 1850.

In compliance with your request, I take great pleasure in stating the result of my experience in the use of "Ray's Patented Vulcanised India-rubber Car and Engine Springs." We have used them nearly two years, and never had one fail in any way. The *cold weather* does not affect *them*, as it has *other* rubber springs we have used.

With sixteen years' experience as superintendent of machinery on the Boston and Providence railroad, I take pleasure in saying that your springs are the best we ever used, or I ever saw used elsewhere. We have 20 cars rigged with them, of which I can say that the springs are as good now as when first applied. I put 24 lbs. of the rubber under the forward end of one of our heaviest engines, taking off 250 lbs. of steel springs—it has been in use 18 months, and is in as good condition now as when first put under the engine.

Very respectfully yours,
GEO. S. GRIGGS,
Supt. of Machinery, Boston and Prov. R.R.

Fall River, February 2, 1850.

In answer to yours of the 20th ult. I would say that this company has for some 10 or 12 months past been using "Ray's India-rubber Springs." We have applied them to both passenger and freight cars with uniform success. They have invariably preserved their elasticity and consistency through all the extremes of weather; and we are now applying them whenever the steel spring fails. I am well satisfied that they are particularly adapted for railroad purposes.

Very respectfully yours,
GEO. HAVEN,
Supt. Fall River Railroad.

—

Jersey City, March 9, 1850.

This is to certify that the present form of Mr. F. M. Ray's India-rubber Car Spring I consider far superior to the form of Disk, having used both forms.

I take pleasure in recommending these springs to all railroad companies. DAVID H. BAKER,
Foreman of Car Shop of N.J. R.R. & Trans. Co.

—

Harlem R.R. Depot,
New York, March 7, 1850.

This is to certify that we have used Mr. F. M. Ray's India-rubber Springs for over eighteen months, and find them to be easy and durable, and recommend them to railroad companies as being superior to anything we have tried. J. M. SMART,
Foreman at 42d St. Depot.

—

Old Colony Railroad Office,
Boston, March 6, 1850.

EDWARD CRANE, Esq.,
President New England Car Co.,

Dear Sir: In compliance with your request I would state that the Old Colony Railroad Comp'y have had in use upon their road, India-rubber Springs furnished by your company, for more than eighteen months past, during which time they have been extensively used under Passenger and Freight Cars, Locomotive Tenders, and for Drawer and Buffing Springs, with the most perfect success. The elasticity and consistency of the Rubber has never been unfavorably affected by either extremes of heat or cold—and from the experience which we have had in the use of Rubber Springs, I think them well adapted for railroad purposes—and therefore we have for some months past used Rubber almost exclusively, in all places where springs are required.

Respectfully yours, etc.,
JAS. H. MOORE,
Supt. O. C. Road.

—

Troy, February 27, 1850.

We have been using your India-rubber Car Springs for nearly two years—and we take pleasure in saying that in our opinion the rubber has to a certain extent already, and may eventually entirely supersede all other Springs for Railroad Car purposes. We now use it entirely for Draw Springs and Bumpers, considering it better and lighter than steel.

During our two years' experience in the use of it, we have not known any to lose their elasticity, or fail in any way; and we cheerfully recommend the rubber for railroad car springs. Very respectfully,

EATON, GILBERT & CO.

Passenger Car Linings.

THE Advertiser continues to make to order the Enamelled Car Linings which have been so highly approved the last three years, and are now exclusively used by all the Northern Railroads. No pains are spared to get out new styles, and adapt them to the tastes of every consumer.

Orders addressed to CHARLES STODDER, No. 75 Kilby street, Boston, will have prompt attention.

March 23, 1850. 2m

India-rubber for Railroad Cos.

RUBBER SPRINGS—*Bearing and Buffer—Fuller's Patent—Hose* from 1 to 12 inches diameter. Suction Hose. *Steam Packing*—from 1-16 to 2 in. thick. *Rubber and Gutta Percha Bands.* These articles are all warranted to give satisfaction, made under Tyer & Helm's patent, issued January, 1849.—No lead used in the composition. Will stand much higher heat than that called "Goodyear's," and is in all respects better than any in use. Proprietors of railroads do not be overcharged by pretenders.

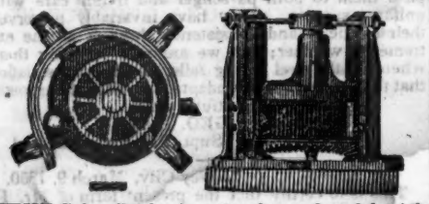
HORACE H. DAY,
Warehouse 23 Courtlandt street.
New York, May 21, 1849.

Spikes, Spikes, Spikes.

ANY person wishing a simple and effective Spike Machine, or a number of them, may be supplied by addressing J. W. FLACK,
March 6, 1850. Troy, N. Y.

MACHINERY.

Henry Burden's Patent Revolving Shingling Machine.



THE Subscriber having recently purchased the right of this machine for the United States, now offers to make transfers of the right to run said machine, or sell to those who may be desirous to purchase the right for one or more of the States.

This machine is now in successful operation in ten or twelve iron works in and about the vicinity of Pittsburgh, also at Phœnixville and Reading, Pa., Covington Iron Works, Md., Troy Rolling Mills, and Troy Iron and Nail Factory, Troy, N. Y., where it has give universal satisfaction.

Its advantages over the ordinary Forge Hammer are numerous: considerable saving in first cost; saving in power; the entire saving of shingler's, or hammerman's wages, as no attendance whatever is necessary, it being entirely self-acting; saving in time from the quantity of work done, as one machine is capable of working the iron from sixty puddling furnaces; saving of waste, as nothing but the scoria is thrown off, and that most effectually; saving of staffs, as none are used or required. The time required to furnish a bloom being only about six seconds, the scoria has no time to set, consequently is got rid of much easier than when allowed to congeal as under the hammer. The iron being discharged from the machine so hot, rolls better and is much easier on the rollers and machinery. The bars roll sounder, and are much better finished. The subscriber feels confident that persons who will examine for themselves the machinery in operation, will find it possesses more advantages than have been enumerated. For further particulars address the subscriber at Troy, N. Y. P. A. BURDEN.

Railroad Spikes and Wrought Iron Fastenings.

THE TROY IRON AND NAIL FACTORY, exclusive owner of all Henry Burden's Patented Machinery *for making Spikes*, have facilities for manufacturing large quantities upon short notice, and of a quality unsurpassed.

Wrought Iron Chairs, Clamps, Keys and Bolts for Railroad fastenings, also made to order. A full assortment of Ship and Boat Spikes always on hand.

All orders addressed to the Agent at the Factory will receive immediate attention.

P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

CHILLED RAILROAD WHEELS.—THE UNdersigned are now prepared to manufacture their Improved Corrugated Car Wheels, or Wheels with any form of spokes or discs, by a new process which prevents all strain on the metal, such as is produced in all other chilled wheels, by the manner of casting and cooling. By this new method of manufacture, the hubs of all kinds of wheels may be made whole—that is, without dividing them into sections—thus rendering the expense of banding unnecessary; and the wheels subjected to this process will be much stronger than those of the same size and weight, when made in the ordinary way.

A. WHITNEY & SON,
Willow St., below 13th,
Philadelphia, Pa.

Brown's Old Established SCALE WARE HOUSE,

NO. 234 WATER ST., NEW YORK.

THE Subscriber, Practical Manufacturer of Scales of every description, respectfully asks the attention of Railroad Companies to his Improved Wrought Iron Railroad Track and Depot Scales which for strength, durability, accuracy, convenience in weighing, and beauty of workmanship, are not surpassed by any others in this country.

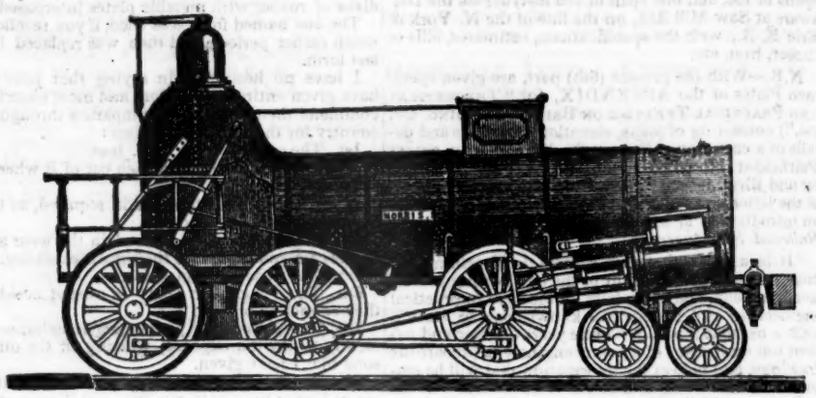
He is aware that this is rather a bold assertion for him to make, yet he can say with confidence that they have but to be tried to give them precedence over all others. J. L. BROWN.

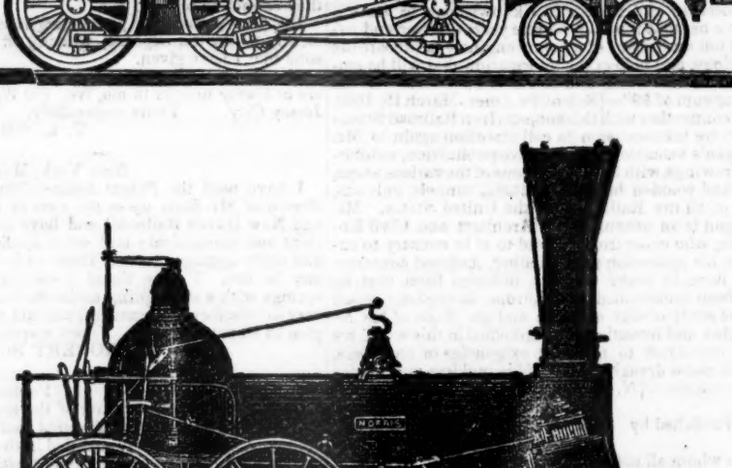
☞ Bank Scales made to order, and all Scales of his make Warranted in every particular.

References given if required. 4tf

NORRIS' LOCOMOTIVE WORKS.

BUSHHILL, SCHUYLKILL SIXTH-ST., PHILADELPHIA,





THE UNDERSIGNED Manufacture to order Locomotive Steam Engines of any plan or size.

Their shops being enlarged, and their arrangements considerably extended to facilitate the speedy execution of work in this branch, they can offer to Railway Companies unusual advantages for prompt delivery of Machinery of superior workmanship and finish.

Connected with the Locomotive business, they are also prepared to furnish, at short notice, Chilled Wheels for Cars of superior quality.

Wrought Iron Tyres made of any required size—the exact diameter of the Wheel Centre, being given, the Tires are made to fit on same without the necessity of turning out inside.

Iron and Brass castings, Axles, etc., fitted up complete with Trucks or otherwise.

NORRIS, BROTHERS

PATENT MACHINE MADE HORSE-SHOES.

The Troy Iron and Nail Factory have always on hand a general asssortment of Horse Shoes, made from Refined American Iron.

Four sizes being made, it will be well for those ordering to remember that the size of the shoe increases as the numbers—No. 1 being the smallest. P. A. BURDEN, *Agent*,
Troy Iron and Nail Factory, Troy, N. Y.

Etna Safety Fuse.

THIS superior article for igniting the charge in wet or dry blasting, made with DUPONT'S best powder, is kept for sale at the office and depot of

REYNOLDS & BROTHER,
☞ *Sole Manufacturers*, ☜
No. 85 Liberty St.
NEW YORK.

And in the principal cities and towns in the U. States.

☞ The Premium of the AMERICAN INSTITUTE was awarded to the *Etna Safety Fuse* at the late Fair held in this city.

November 2, 1849. 1y

COLUMBUS, OHIO,

Railroad Car Manufactory.

RIDGWAYS & KIMBALL,

HAVE established at this central point, the manufacture of Passenger, Freight, Gravel and Hand Cars for Railroads, and assure all Western Railroad Companies that it will be their constant aim to procure the best materials and workmen, and to turn out the best kind of work at fair prices. Specimens may be seen on the Columbus and Xenia Railroad. The patronage of Railroad Companies is respectfully solicited. 1y8

To Inventors and Patentees.

OWEN G WARREN, ARCHITECT, Has had many years' experience as Agent for obtaining Patents, both in this country and Europe, and will transact such business promptly and reasonably. Persons at a distance can have their business done by correspondence—without the necessity of visiting this city or Washington. Office No. 94 Merchants Exchange, Wall st., corner of Hanover st., up stairs. 1y3

MR. HALE:—"The New England Car Co., having been engaged for the last six months in introducing the Vulcanized India-rubber Car Spaings upon the different railroads in this and other states, and having in particular introduced it upon the Boston and Worcester railroad with perfect success, were much gratified to find, by your paper of this morning, that the article had given satisfaction to the president of that corporation, and the terms of just commendation in which you were pleased to speak of it. But their gratification was scarcely equalled by their surprise, when, or arriving at the close of your paragraph, they found the results of all their labors attributed to a foreign source, with which the New England Car Co. has no connection. The material used on the Boston and Worcester railroad, and all the other railroads in this country, where any preparation of India-rubber has been successfully applied, is entirely an American invention, patented in the year 1844 to Charles Goodyear, of New Haven, Conn., and the application of it to this purpose and the form in which it is applied are the invention of F. M. Ray of New York. The only material now in use, and so far as has yet appeared, the only preparation of India rubber capable of answering the purpose, has been furnished under these patents by the New England Car Company, manufactured under the immediate inspection of their own agent. If any other should be produced, the right to use it would depend upon the question of its interference with Mr. Goodyear's patent. The New England Car Company have their place of business in this city at No. 99 State street, and are prepared to answer all orders for the Vulcanised India rubber Car Springs, of the same quality and of the same manufacture as those which they have already placed on your road, and most fo the other roads terminating in this city."

And yet Mr. Knevitt is using these experiments made upon the Springs of the Car Company to induce the public to purchase his springs, and is attempting to impose upon them the belief that the springs used were furnished by him! We ask whether such a course is honorable, or entitles his statements to much consideration from the public.

The above Springs are for sale 98 Broadway, New York, and 99 State street, Boston.

EDWARD CRANE Agent, Boston.
F. M. RAY, Agent, New York.

Boston, May 8, 1849.

STABILITY—SECURITY—PERPETUITY.

Mutual Life Insurance Co. of New York.

No. 35 WALL STREET.

A MILLION OF DOLLARS

Securely invested in Bonds and Mortgages on real estate in this city and Brooklyn, and stocks of the State and City of New York and United States Government.

The company declared a dividend of profits of fifty-two per cent. on all existing policies on the 31st of January, 1848.

All the Profits are Divided Among the Insured.

Persons may effect insurance on their own lives and the lives of others.

A married woman can insure the life of her husband, the benefits of which are secured by law for the exclusive use of herself or children.

Clergymen and all others dependent upon salaries or their daily earnings are specially invited to avail themselves of a resource whereby their surviving families may be secured from the evils of penury.

Pamphlets explanatory of the principles of Mutual Life Insurance, and illustrating its advantages, with forms of application, may be obtained at the office of the company, 35 Wall street, or of any of its agents.

TRUSTEES.

Jos. B. Collins,	Abraham Bininger,
Wm. J. Hyslop,	Alfred Edwards,
R. H. McCurdy,	Wm. Betts,
Fred. S. Winston,	Joseph Blunt,
C. W. Faber,	Isaac G. Pearson,
John P. Yelverton,	Henry Wells,
Theo. Sedgwick,	Wm. Moore,
Stacy B. Collins,	George R. Clark,
John H. Swift,	Jona. Miller,
John Wadsworth,	David A. Comstock,
S. M. Cornell,	Robert Schuyler,
Gouv. M. Wilkins,	James Chambers,
John V. L. Pruyn,	Joseph Tuckerman,
Jas. S. Wadsworth,	Moses H. Grinnell,
Charles Ely,	Wm. J Banker,
John C. Cruger,	John M. Stuart,
Charles King,	Francis S. Lathrop,
Alfred Pell,	Nathaniel Hayden.

JOSEPH. B. COLLINS, President.
ISAAC ABBATT, Secretary. 3m9

Hydraulic Cement.

KINGSTON LIME AND CEMENT CO.
OFFICE
271 PEARL-ST.
N. Y.

HYDRAULIC CEMENT, OF BEST QUALITY, manufactured at their works, for sale in lots to suit purchasers.

Also, Ground Lime, a superior article for Builders.

ISAAC FRYER, Sec'y.

January 19, 1850. 1v

Engine and Car Works,

PORTLAND, MAINE.

THE PORTLAND COMPANY, Incorporated August 8th, 1846, with a capital of $250,000, have erected their extensive Works upon the deep water of Portland Harbor, and receive and transport, to and from their works direct, to and from vessels of any class.

They now manufacture to order, and deliver upon the Railroads running in each direction from the city, or on shipboard as wanted, Locomotive, Stationary, or Steam Boat Engines; Passenger, Mail, Freight, Earth and Hand Cars; Railway Frogs, Switches, Chairs and Castings; and every other description of Machinery.

HORACE FELTON,
Superintendent.

JAMES C. CHURCHILL,
General Agent and Clerk.

RAILROADS.

EASTERN RAILROAD.

SUMMER ARRANGEMENT.

On and after Monday, June 17th, 1850, trains will leave Boston daily (Sundays excepted);

For Lynn, 7, 9½, 11 a.m., 12 m., 2½, 4½, 5. 6, 7 p.m.
Salem, 7, 9½, 11, a.m., 12 m., 2½, 3, 4½, 6, 7 pm.
Manchester and Gloucester, 9½ a.m., 3, 6 p.m.
Marblehead, 7, 9½, 12 a.m. 2½, 4½, 6, 7 p.m.
Ipswich, 7, 11, 12 a.m., 2½, 4½, 7 p.m.
Newburyport, 7, 11, 12 a.m., 2½ 4½, 7 p.m.
Portsmouth, 7, 11 am., 4½, pm.
Portland, Me., 7, 11 am., 4½, pm.

And for Boston,

From Portland, 5, 10½ am., 5 pm.
Portsmouth, 7½,* am., 1, 7½*, pm.
Newburyport, 6½, 8*, 11½ am., 1½*, 5, 8 pm.
Ipswich 7·40, 8·35, 11·42 a.m. 2·20, 5·22, 8½.
Gloucester, 7½, am., 1½, 8 pm.
Manchester, 7 am., 2 pm.,
Salem, 6½, 7½*, 8½*, 9½, 10½ am., 12½*, 2½* 3,* 6*, 9*, pm.
Lynn, 6½, 7½*, 8½*, 9½, 10½ am., 12½*, 2½*, 3½ 6½*, 9½* pm.

**Or on their arrival from the East.*

Freight trains each way daily. Office 17 Merchants' Row, Boston.

JOHN KINSMAN, Superintendent.

ALBANY AND BUFFALO RAILROADS.—Four Trains daily, Sundays excepted, viz:
Leave Albany, 6 a.m., 9 a.m., 2 p.m., 7 p.m.
Reach Buffalo, 15 hours, 18 hours, 23 hours, 18 hours.
Arrive from Buffalo, 7 p.m., 2½ a.m., 12½ m., 3½ p.m.

Passengers by the *Express Train* reach Buffalo from New York, and New York from Buffalo, in 24 hours. The Isaac Newton and Oregon connect at Albany with this Train. Baggage cars, with careful baggage masters, run through with all the trains.

For Schenectady, Saratoga Springs & Whitehall,

Leave Albany at 7 a.m. and 2 p.m. For Schenectady only at 6, 7 and 9 a.m. and 12½, 2 and 7 p.m. For Erie Canal packets at 7 a.m. and 7 p.m. By Plank Road from Schenectady to Saratoga at all hours by stages, etc.

The *Eastern Trains* leave Albany at 7 a.m. and 3 p.m. The wagons of the company take baggage *free* between railroads and steamboats at Albany.

E. FOSTER, Jr., Sec'y
Albany and Schenectady Railroad Co.
Albany, August, 1849.

BOSTON AND MAINE RAILROAD.

Summer Arrangement, 1850.

Outward Trains from Boston

For Portland at 7, 11, am. and 4½ pm.
For Great Falls at 7, 11, am., 4½ pm.
For Haverhill at 7, 9, 11 am., 2½, 4½, 6½, pm.
For Lawrence (South Side,) 7, 11 am., 2½, 4½, pm.
" (North ") 7½, 9, a.m 12m., 5, 6½, p.m.
For Reading 7, 9, 11 am. 12m. 2½, 4½, 5, 6½, 7½, 9½ pm.
The Station in Boston is on Haymarket Square.

THOS. S. WILLIAMS, Sup't.

July 1, 1850.

NEW YORK AND HARLEM RAILROAD.

NEW ARRANGEMENT.

On and after Wednesday, October 17th, 1849, the Cars will run as follows, (Sundays excepted) until further notice:

Trains will leave the City Hall, New York, for—
Harlem and Morrisania at 6½, 8, 10, 11, 12 am., 2, 3½, 4, 5, 6½ pm.
New Village, at 8½, 10, 12 am., 3½, 5, 6½ pm.
Fordham and Williams' Bridge, at 8½, 10, 12 am., 2½ 3½, 5, 6½ pm.
Hunt's Bridge, Underhill's and Hart's Corners, at 8½, 10 am., 3½, 5 pm.
Tuckahoe and White Plains, at 8½, 10 am., 2½, 3½, 5 pm.
Pleasantville, New Castle, Bedford, Mechanicsville, Purdy's, Croton Falls, and intermediate stations, on signal, 8½ am., 2½, 3½ pm.
Brewster's, Towner's, Patterson, Paulding's, South Dover, Dover Furnace, and Dover Plains, 8½ am., 2½ pm.

NOTICE—Passengers are reminded of the great danger of standing upon the platform of the cars, and hereby notified that the practice is contrary to the rules of the Company, and that they do not admit any responsibility for injury sustained by any passenger upon the platforms, in case of accident.

Returning to New York will leave
Harlem and Morrisiana at 6 08, 7½, 8 37, 9, 10 6, 12 am., 1 43, 3 07, 3½, 5, 5 47 pm.
New Village, at 5 58, 8 27, 9 56 am., 1 33, 2 57, 5 36 pm.
Fordham and William's Bridge at 5½, 8 14, 9 43, 10 57 am., 1 20, 2 44, 5 24 pm.
Hunt's Bridge at 8 04, 9 33 am., 2 34, 5 16 pm. On signal.
Underhill's, at 7 56, 9 23 a.m., 2 26, 5 10 p.m. On signal.
Tuckahoe at 7 53, 9 18, 10 40 am., 2 23, 5 08 pm.
Hart's Corners at 7 38, 9 03 am., 2 08, 4 54 pm.—On signal.
White Plains at 7½, 8 55, 10 20 am., 2, 4 47 pm.
Davis' Brook at 8 40, 10 11 am., On signal. 4 39 pm. On signal.
Unionville, 8 27, 10 11 am. On signal. 4 29 pm.—On signal.
Pleasantville at 8 20, 9 56 am., 4 24 pm.
Champaqua, at 8 10, 9 50 am. On signal. 4 18 pm. On signal.
New Castle, at 7 56, 9 38 am.. 4 07 pm.
Bedford at 7 46, 9 32 am., 4 02 pm.
Mechanicsville at 7 36, 9 22 am., 3 52 pm.
Golden's Bridge, 7 28, 9 17 am. On signal, 3 47 pm. On signal.
Purdy's at 7 20, 9 09 am., 3 39 pm.
Croton Falls, at 7½, 9 04 am.,3 34 pm.
Brewster's, at 8 50 am., 3 20 pm.
Towner's, at 8 35 am., 3 05 pm.
Paterson, at 8 27 am., 2 57 pm.
Paulding's, at 8 17 am., 2 47 pm.
South Dover, 8 02 am., 2 32 pm.
Dover Furnace, 7 55 am., 2 25 pm.
Dover Plains, at 7 45 am., 2 15 pm.

The trains for Harlem and Morrisiana leaving City Hall at 6½, 8, 10, 11, 12, 2, 4 and 6½, returning from Morrisiana and Harlem at 6 08, 7½, 9, 12, 1 43, 3 07, 3½ and 5 o'clock, will land and receive passengers at 27th 42d, 51st, 61st, 79th, 86th, 109th, 115th, 125th and 132d streets.

The Dover Plains train from New York at 2½ pm., returning leaving Dover Plains at 7½ am., will not stop between White Plains and New York, (except at Tuckahoe, Williams' Bridge and Fordham,) unless to leave passengers coming from above Croton Falls.

A car will precede each train ten minutes to take up passengers in the city. The last car will not stop, except at Broome st. and 27th street.

Freight Trains leave New York at 1 o'clock pm.—Returning, leaves Dover Plains at 12 o'clock m.

For Sunday Aarrangements, see hand bills.

M. SLOAT, Sup't.

NEW YORK AND ERIE RAILROAD.

Change of Hours.

On and after Monday, May 6, 1850, the trains will leave as follows, by steamboat Thomas Powell, from the foot of Duane st., daily (Sundays excepted).

Breakfast and supper on board the boat.

Way and Mail Train—At 6½ a.m., stopping at all the stations—arriving at Corning and Jefferson about 10½ p.m., and at Buffalo next morning.

Night Train—At 5 p.m., stopping at all the stations and arriving at Geneva in time to connect with the express train from Albany, and arrive at Buffalo at 7 p.m. next day,

An Express Train will commence running in a few days, of which due notice will be given.

Freight Train.—Leave New York from foot of Duane st. daily, (Sundays excepted) at 5 p.m. Freight for Geneva, Rochester and Buffalo, forwarded by express freight train. CHAS. MINOT, Supt.

New York, May 2, 1850.

NORTHERN RAILROAD, NEW YORK.

CARS run between Rouses Point and Chataugay daily, Sundays excepted, as follows:

Leave Rouses Point at . . 3½ A M.
Leave Chateaugay at . . 6½ P.M.

On the arrival of the cars at Chataugay, stages are in readiness to take the passengers to Ogdensburg, where they arrive the same day.

Passengers leave Ogdensburg in the morning by stage, and take the evening train from Chataugay to Rouses Point, where they go immediately on board the steamboats which run north and south on Lake Champlain.

Passengers leaving New York in the evening by the way of Whitehall, will arrive at Rouses Point the next night, and the next morning pass directly from the boat to the cars, and arrive at Ogdensburg the same day. CHARLES L. SCHLATTER, Supt.

WESTERN AND ATLANTIC RAILROAD,

FROM ATLANTA, GA., TO CHATTANOOGA, TENN.
140 Miles.

PASSENGER SCHEDULE.

Leave Chattanooga daily, Sundays excepted, at		8½ a.m.
Arrive at Kingston	by	12 m.
" Dalton	by	3 p.m.
" Chattanooga	by	6 "
Leave Chattanooga daily, Sundays excepted, at		7 a.m.
Arrive at Dalton	by	9½ "
" Kingston	by	12 m.
" Atlanta	by	4 p.m.

The fare is now permanently reduced to *three* cents per mile for way as well as through Passengers; children and servants *two* cents per mile.

There are two Railroad routes from Atlanta to the Seaboard, viz: one by the Georgia Railroad to Augusta, and thence to Charleston by the South Carolina Railroad; the other by the Macon and Western Railroad to Macon, and thence to Savannah by the Central Railroad.

At Kingston, 60 miles north of Atlanta, the Rome Railroad branches off to Rome on the Coosa river, which admits of steamboat navigation as far down as Gre nsport in Ala. Mail stages are in operation from Rome leading towards Tuscaloosa, Ala., Columbus, Miss., Memphis, Tenn., etc.

At Dalton, 100 miles north of Atlanta, a line of stages branches off to Knoxville, Tenn., which will be superseded by the East Tennessee and Georgia Railroad as rapidly as the same is completed.

At Chattanooga a number of steamboats are in successful operation on the Tennessee river, and from that terminus of the road stages run to Nashville, which will be superseded by the Nashville and Chattanooga Railroad as rapidly as the same is completed.

WM. D. FULLTON, Supt. Transp.
Transportation W. & A. R. R.,
Atlanta, March, 1850.

GREAT NORTHERN & SOUTHERN MAIL ROUTE.

From New York to Charleston, S. C. daily, via *Philadelphia, Baltimore, Washington City, Richmond, Petersburg, Weldon and Wilmington, N. C.*

Travellers by this route, leaving New York at 4½ p. m., Philadelphia at 10 p.m., and Baltimore at 6 a.m., proceed without delay at any point on the route, arriving at Richmond, Va., in a day, and at Charleston, S. C., in two and half days from New York.

Through tickets from New York to Charleston, $20 00
" " Baltimore to Richmond, 7 00
" " " " Petersburg, 7 50

For tickets to Richmond and Petersburg, or further information, apply at the *Southern Ticket Office, adjoining the Washington Railroad Ticket Office, Pratt Street, Baltimore.* STOCKTON & FALLS.

LITTLE MIAMI RAILROAD.—SUMMER ARRANGEMENT.

Cincinnati and Sandusky.

FIRST Passenger Train leaves Depot on East Front street, at 5 o'clock 10 minutes A. M. stops for breakfast at Morrow, and arrives at Springfield at 11 10 A M. Leaves Springfield for Sandusky at 11 50 A. M.

Second Passenger Train leaves Depot 3 P. M. arrives at Springfield at 9 P.M. Passengers take tea at Springfield, and leaves for Sandusky at 9½ P. M.

RETURNING—First Train leaves Springfield at 4 A. M. Stop for breakfast at Xenia, and arrives at Cincinnati at 10 15 A. M.

Second Train leaves Springfield at 2½ P. M. Stop for tea at Morrow, and arrives at cincinnati, at 8½ P. M.

Passengers taking the Morning Train arrive at Sandusky at 9 P. M. Those taking the Afternoon Train arrive at 7½ A. M. next morning, and proceed directly on in the boats.

Passengers for columbus, Zanesville, Wheeling, and intermediate towns, should take the 5, 10 A. M., Train.

The Ohi Stage Company are running the following Lines in connection with the Trains:

A Daily Daylight Line to Columbus from Springfield in connection with the Morning Train from Cincinnati. Also, Daily Lines to Columbus, from Xenia and Springfield, connecting with the 3 o'clock pm. train from Cincinnati.

Fare from Cincinnati to	Xenia	$1 90
" "	Springfield	2 50
" "	Sandusky city	6 50
" "	Buffalo	10 00
" "	Columbus	4 50

For other information and through tickets, apply at the Ticket Office on Broadway, near Front-st., Cincinnati.

W. H. CLEMENT, Superintendent.

☞ The Company will not be responsible for Baggage exceeding 50 dollars in value, unless the same is returned to the Conductors or Agent, and freight paid at the rate of a passage for every 500 dollars in value above that amount.

PHILADELPHIA, WILMINGTON, & BALTIMORE RAILROAD.

Summer Arrangement.
April 1st, 1849.—Fare $3.

Leave Philadelphia 8½ am., and 10 pm.
Leave Baltimore 9 am, and 8 pm.
Sunday—Leave Philadelphia at 10 pm.
" Baltimore at 8 pm.
Trains stop at way stations.

Charleston, S. C.

Through tickets Philadelphia to Charleston, $20.

Pittsburg and Wheeling.

Through ticket, Philadelphia to Pittsburg, $12.
" " Wheeling, 13.
Through tickets sold at Philadelphia office only.

Wilmington Accommodation.

Leave Philadelphia at 12 m. 4 and 7 pm.
Leave Wilmington at 7½ am., 4½ and 7 pm.

Newcastle Line.

Leave Philadelphia at 2½ pm.—Baltimore at 1½ pm
Fare $3.—Second class, $2.
N.B.—Extra baggage charged for.

I. R TRIMBLE, Gen. Supt.

BALTIMORE AND SUSQUEHANNA RAILROAD.—Reduction of Fare.

Morning and Afternoon Trains between Baltimore and York.—The Passenger Trains run daily, except Sundays, as follows:

Leave Baltimore at	9 am. and 3½ pm.
Arrive at	9 am. and 6½ pm.
Leave York at	5 am. and 3 pm.
Arrive at	12½ pm. & 8 pm.
Leave York for Columbia at	1½ pm. & 8 am.
Leave Columbia for York at	8 am. & 2 pm.

Fare:

Fare to York	$1 50
" Wrightsville	2 00
" Columbia	2 12½

Way points in proportion.

PITTSBURG, GETTYSBURG, AND HARRISBURG.

Through tickets to Pittsburg via stage to Harrisburg — $9
Or via Lancaster by railroad — 10
Through tickets to Harrisburg or Gettysburg — 3
In connection with the afternoon train at 3½ o'clock, a horse car is run to Green Spring and Owing's Mill, arriving at the Mills at — 5½ pm.
Returning, leaves Owing's Mills at — 7 am.

D. C. H. BORDLEY, Sup't.
31 1y Ticket Office, 63 North st.

PHILADELPHIA & READING RAILROAD

Passenger Train Arrangement for 1850.

A Passenger Train will leave Philadelphia and Pottsville daily, except Sundays, at 9 o'clock a.m.

The Train from Philadelphia arrives at Reading at 12 18 m.

The Train from Pottsville arrives at Reading at 10 43 a.m.

Fares.	Miles.	No. 1.	No. 2.
Between Philad. and Pottsville,	92	$3 50 and	$3 00
" " Reading,	58	2·25	1·90
" Pottsville "	34	1·40	1·20

Five minutes allowed at Reading, and three at other way stations.

Passenger Depot in Philadelphia corner of Broad and Vine streets. 8tf.

BALTIMORE AND OHIO RAILROAD AND WASHINGTON BRANCH.

On and after January 1, 1850, Passenger Trains will run as follows:

Leave Baltimore for Ellicott's Mills, Frederick, Harper's Ferry, Martinsburg, Hancock and Cumberland, every morning at 7½ o'clock. This line carries the Great Mail, and connects with Post Coaches at Cumberland, for Wheeling and Pittsburg, over the National Road. Also with the Winchester Trains, at Harper's Ferry. N.B.—Passengers for Pittsburg take the steamers of the Monongahela slack water navigation at *Brownsville*, only 76 miles from Cumberland.

Leave Baltimore for Ellicott's Mills, Frederick and Harper's Ferry, daily, except Sunday, at 4½ p.m.

Leave Baltimore for Washington City, daily, at 6 a.m. and 5 p.m.—daily, except Sunday, at 9 a.m. The early train connects with the Great Southern Line, via Fredericksburg and Richmond, to Charleston.

Leave Cumberland for Baltimore, etc., at 8½ a. m., daily, connecting with the train from Winchester at Harper's Ferry—with the Evening Train to Washington City, at the Relay House—and with the Evening Train to Philadelphia, at Baltimore. Time for arriving at Baltimore, 5½ p.m.

Leave Harper's Ferry for Baltimore, daily, except Sunday, at 7½ a. m—taking in Passengers who leave Frederick at 8½ a.m.

Leave Washington for Baltimore, daily, at 6 a.m. & 5½ p.m., and *daily, except Sunday*, at 9½ a. m. The early train connects at the Relay House with the morning line to Cumberland and the West, and at Baltimore with the day line to Philadelphia and New York.

Through tickets are sold at *Philadelphia and Baltimore* for Pittsburgh and Wheeling, and at *Philadelphia and New York* for Charleston, S. C., at the following

RATES OF FARE.

	To Pittsburg. In winter.	Summer.	Wheeling. Win.	Sum.	Charleston.
From Philadelphia,	$13	$12	$14	$13	$20
" Baltimore,	11	10	12	11	
" New York,					20

Passengers leaving New York not later than the afternoon line via Newark, etc., reach Baltimore in season to take the next morning's lines to the South and West.

Passengers leaving Cumberland in the morning and Washington in the evening lines, reach Baltimore in season to proceed to Philadelphia by the evening train at 8 p. m.—so as to reach New York before noon the next day.

An Emigrant line by burthen cars, leaves Baltimore every morning, except Sundays, at 4 o'clock—connecting with a line of the previous day from N. York—and at Cumberland with a wagon line to Pittsburg or Brownsville and Wheeling. Fare by this line:

From New York to Pittsburg,	$8 00
" Philadelphia "	6 50
" Baltimore "	5 00

By order, J. T. ENGLAND, Agent.

SOUTH CAROLINA RAILROAD.—A PASSENGER Train runs daily from Charleston, on the arrival of the boats from Wilmington, N. C., in connection with trains on the Georgia, and Western and Atlantic Railroads—and by stage lines and steamers connects with the Montgomery and West Point, and the Tuscumbia Railroad in N. Alabama.

Fare through from Charleston to Montgomery daily — $26 50
Fare through from Charleston to Huntsville, Decatur and Tuscumbia — 22 00

The South Carolina Railroad Co. engage to receive merchandize consigned to their order, and to forward the same to any point on their road; and to the different stations on the Georgia and Western and Atlantic Railroad; and to Montgomery, Ala., by the West Point and Montgomery Railroad.

JOHN KING, Jr., Agent.

FAIRBANKS' RAILROAD SCALES.—THE subscribers are prepared to construct at short notice, *Railroad* and *Depot Scales*, of any desired length and capacity. Their long experience as manufacturers—their improvements in the construction of the various modifications, having reference to strength, durability, retention of adjustment, accuracy of weight and dispatch in weighing—and the long and severe tests to which their scales have been subjected—combine to ensure for these scales the universal confidence of the public.

No other scales are so extensively used upon railroads, either in the United States or Great Britain;—and the managers refer with confidence to the following in the United States.

Eastern Railroad.	Boston & Maine Railroad.
Providence Railroad.	Providence and Wor. Road.
Western Railroad.	Concord Railroad.
Old Colony Railroad.	Fitchburg Railroad.
Schenectady Railroad.	Syracuse and Utica Road.
Balt. and Ohio Railroad.	Baltimore and Susq. Road.
Phila. & Reading Road.	Schuylkill Valley Road.
Central (Ga.) Railroad.	Macon and Western Road.

New York and Erie Railroad.

And other principal Railroads in the Western, Middle and Southern States.

E. & T. FAIRBANKS & CO.
St. Johnsbury, Vt.

Agents, { FAIRBANKS & Co., 89 Water St., N. York. / A. B. NORRIS, 196 Market St. Philadelphia.

April 22. 1849. 1y*17

NOTICE TO

Superintendents of Railroads.

TYLER'S PATENT SAFETY SWITCH.—The undersigned would respectfully call their attention to his Patent Safety Switch, which from long trial and late severe tests has proved itself perfectly reliable for the purpose for which it was intended. It is designed to prevent the train from running off when the switch is set to the wrong track by design or accident. The single rail or gate switch is established as the best and safest switch for the ordinary purpose of shifting cars from one track to another, but it is liable to the serious evil of having one track open or broken when connected with the other. My improvement entirely removes this evil, and while it accomplishes this important office, leaves the switch in its original simplicity and perfection of a plain unbroken rail, connecting one track with the other ready for use.

The following decision of the Commissioner of Patents is respectfully submitted to Railroad Engineers, Superintendents, and all others interested in the subject.

P. B. TYLER.

(COPY.)

UNITED STATES PATENT OFFICE,
Washington City, D.C., April 28th, 1846.

SIR: You are hereby informed that in the case of the interference between your claims and those of Gustavus A. Nicolls, for improvements in safety switches—upon which a hearing was appointed to take place on the 3d Monday in March, 1846, the question of priority of invention has been decided in your favor. Inclosed is a copy of the decision. The testimony in the case is now open to the inspection of those concerned.

Yours respectfully, EDMUND BURKE,
Commissioner of Patents.

To Philos B. Tyler.

Any further information may be obtained by addressing P. B. TYLER, Springfield, Mass., or JOHN DENOLETON, Agent, 149 Hudson St., New York.

NORRIS' LOCOMOTIVE WORKS,

SCHENECTADY, N. Y.

THESE Works are in full operation in Manufacturing to order, Locomotive Steam Engines & Tenders, of the best principle and construction of material, using wrought iron heavy frames with pedestals welded thereto, and all parts of the engine made of the best wrought iron, except cylinders, pumps and boxes—obtaining greater durability, and carrying less weight over the road, than engines constructed of cast iron.

Wrought Iron Tires made any required size, and Tire Bars bent and welded with dispatch.

Chilled Wheels for Cars, Tucks and Tenders, made from the toughest iron.

Driving and Tender and Car Wheels fitted to Axles with Brass Boxes and Springs, and Railroad Machinery generally. Manufactured and for sale by

April 11, 1849. E. S. NORRIS.

CORROSIVE SUBLIMATE.

THIS article now extensively used for the preservation of timber, is manufactured and for sale by POWERS & WEIGHTMAN, manufacturing Chemists, Philadelphia.

Jan. 20, 1849.

CENTRAL RAILROAD FROM SAVANNAH TO MACON, (Ga.) 190¼ miles.

Passenger Trains leave Savannah and Macon daily at 7 a.m.
Passenger trains arrive daily at Savannah, 6 15 p.m.
" " " " Macon, 6 45 p.m.

This road, in connection with the Macon and Western road from Macon to Atlanta, and the Western and Atlantic road from Atlanta to Dalton, now forms a continuous line of 391¼ miles in length* from Savannah to Dalton, Murray county, Ga. and with the Memphis Branch railroad, and Stages connect with the following places:

Tickets from Savannah to Macon,		$5 75
" " "	Atlanta,	9 50
" " "	Augusta,	6 50
" " "	Columbus,	15 00
" " "	Opelika,†	17 00
" " "	Jacksonville, Ala.,	20 00
" " "	Talladega, Huntsville Decatur, Ala.,	22 00
" " "	Tuscumbia, Ala.,	22 50
" " "	Tuscaloosa, Ala.,	
" " "	Columbus, Miss, Aberdeen, " Holly Springs Nashville, Tenn.	28 00
" " "	Murphreesboro' Columbia, do.,	25 00
" " "	Memphis, do.,	30 00

An extra Passenger Train leaves Savannah on Saturdays, after the arrival of the Steam-ships from New York, for Macon, and connects with the Macon and Western railroad; and on Tuesdays, after the arrival of the Macon and Western cars, an extra Passenger Train leaves Macon to connect with the Steam ships for New York.

Stages for Tallahasse and intermediate places connect with the road at Macon, Mondays, Wednesdays, and Fridays, and with Milledgeville at Gordon daily.

Passengers for Montgomery, Mobile and New Orleans take stage for Opelika from Barnesville through Columbus a distance of 97 miles, or from Griffin thro' West Point, a distance ot 93 miles.

* The Western and Atlantic railroad will soon be completed between Dalton and Chattanooga, a distance of 42¾ miles from Savannah, of which due notice will be given.

† Head of the West Point and Montgomery railroad, on which the fare to Montgomery is about $2.

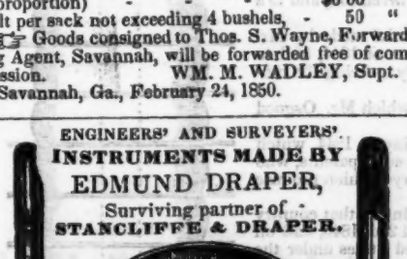
RATES OF FREIGHT FOR MERCHANDIZE GENERALLY, FROM SAVANNAH TO MACON.

Measurement Goods.—Boxes of hats, bonnets, furniture, shoes, saddlery, dry-goods, and other measurement goods, per cubic foot - - 13 cents.
Crockery Ware, in crates, boxes or hhds, per cubic foot. - - - - 10 "
Goods by Weight, 1st class.—Boxes of glass, paints, drugs & confectionary, per 100 lbs., 50 "
2d class—Sugar, coffee, rope, butter, cheese, lard, tobacco, leather, hides, copper, sheet and hoop iron, tin, hard and hollow ware, rice, boxes soap and candles, bagging, and other heavy articles not enumerated below, per 100 lbs., - - - - 45 "
3d class—Flour, bacon, liquors, pork, beef, fish, tallow and beeswax, per 100 lbs., 40 "
4th class—Mill-gearing, pig and bar iron, grind and millstones, nails, spikes and coal, 100 lb. 30 "
Barrels of beets, bread, crackers, potatoes, ice, fruit, oysters, onions, and all light bbls, each, 75 "
Oil and molasses per hhd., (smaller casks in proportion) - - - $6 00 "
Salt per sack not exceeding 4 bushels, - 50 "

☞ Goods consigned to Thos. S. Wayne, Forwarding Agent, Savannah, will be forwarded free of commission. WM. M. WADLEY, Supt.

Savannah, Ga., February 24, 1850.

ENGINEERS' AND SURVEYERS'
INSTRUMENTS MADE BY
EDMUND DRAPER,
Surviving partner of
STANCLIFFE & DRAPER.



No 23 Pear street, near Third, below Walnut, Philadelphia.

GEORGIA RAILROAD. FROM AUGUSTA TO ATLANTA—171 MILES.

AND WESTERN AND ATLANTIC RAILROAD, FROM ATLANTA TO DALTON, 100 MILES.

This Road, in connection with the South Carolina Railroad, and Western and Atlantic Railroad, now forms a continuous line, 408 miles in length, from Charleston to Dalton Cross Plains) in Murray county, Ga. 32 miles from Chattanooga, Tenn.

RATES OF FREIGHT.		Between Augusta and Dalton. 271 miles.	Between Charleston, and Dalton. 408 miles.
1st class	Boxes of Hats, Bonnets, and Furniture, per cub-foot - -	$0 18	$0 28
2d class	Boxes and Bales of Dry Goods, Saddlery, Glass, Paints, Drugs, and Confectionary, per 100 lbs.	1 00	1 50
3d class	Sugar, Coffee, Liquor, Bagging, Rope, Cotton, Yarns Tobacco, Leather, Hides, Copper, Tin, Feathers, Sheet Iron, Hollow ware, Castings, Crockery, etc.	0 60	0 85
4th class	Flour Rice, Bacon. Pork, Beef, Fish, Lard, Tallow, Beeswax, Bar Iron, Ginseng, Mill Gearing, Pig Iron, and Grindstones, etc. - - -	0 40	0 65
	Cotton, per 100 lbs. -	0 45	0 70
	Molasses per hogshead -	8 50	13 50
	" " barrel - -	2 50	4 25
	Salt per bushel - -	0 18	
	Salt per Liverpool sack -	0 65	
	Ploughs, Corn Shellers, Cultivators, Straw Cutters, Wheelbarrows - -	0 75	1 50

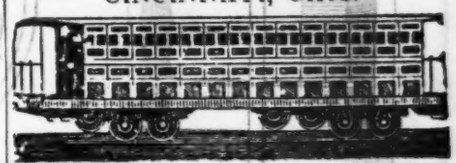
German or other emigrants, in lots of 20 or more, will be carried over the above roads at 2 cents per mile.

Goods consigned to S. C. Railroad Company will be forwarded free of commissions. Freights payable at Dalton.

F. C. ARMS,
44*1y Sup't of Transportation.

CAR MANUFACTORY

CINCINNATI, OHIO.



KECK & DAVENPORT WOULD RESPECTfully call the attention of Railroad Companies in the West and South to their establishment at Cincinnati. Their facilities for manufacturing are extensive, and the means of transportation to different points speedy and economical. They are prepared to execute to order, on short notice, Eight-Wheeled Passenger Cars of the most superior description. Open and Covered Freight Cars, Four or Eight-Wheel Crank and Lever Hand Cars, Trucks, Wheels and Axles, and Railroad Work generally.

Cincinnati Ohio, Oct. 2, 1848. 44tf

NICOLL'S PATENT SAFETY SWITCH FOR Railroad Turnouts. This invention for some time in successful operation on one of the principal railroads in the country, effectually prevents engines and their trains from running off the track at a switch, left wrong by accident or design. It acts independently of the main track rails; being laid down or removed without cutting or displacing them.

It is never touched by passing trains, except when in use, preventing their running off the track. It is simple in its construction and operation, requiring only two castings and two rails; the latter, even if much worn or used, not objectionable.

Working models of the Safety Switch may be seen at Messrs. Davenport, Bridges & Kirk's Cambridge Port, Mass., and at the office of the Railroad Journal, New York.

Plans, Specifications, and all information obtained, on application to the Subscriber, Inventor and Patentee.

G. A. NICOLLS.
Reading, Pa.

FOWLER M. RAY'S
METALLIC INDIA RUBBER CAR SPRINGS.

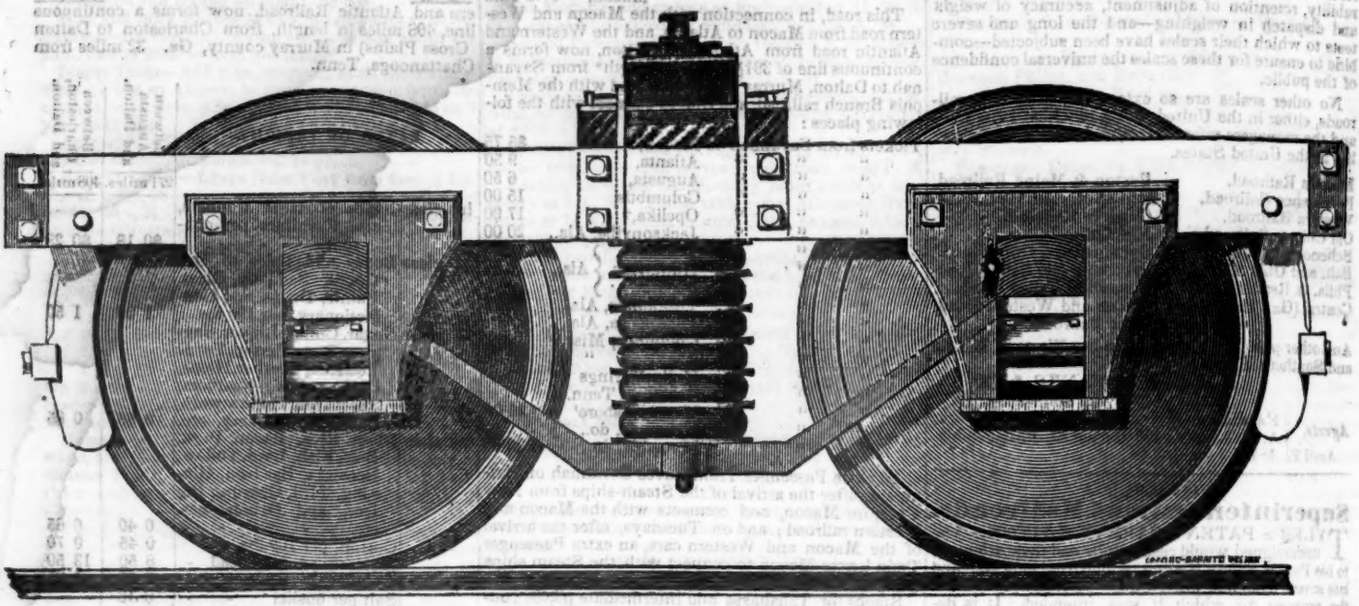


Fig. 1.

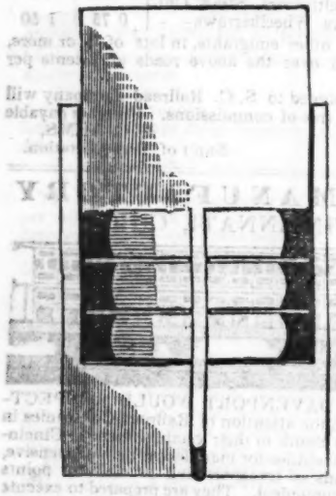


Fig. 2.

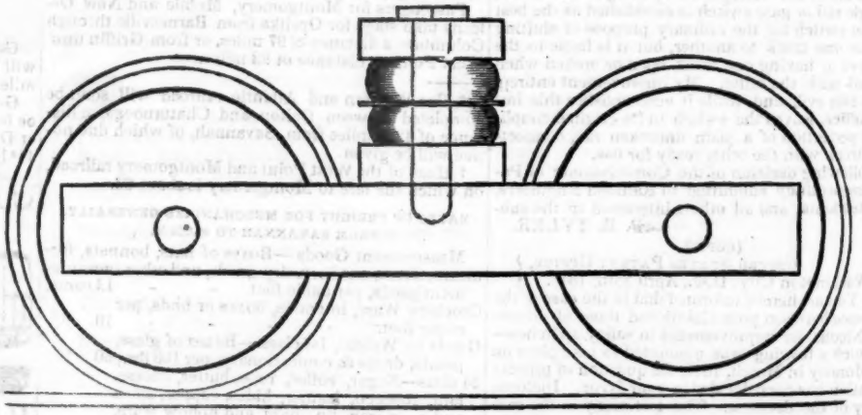
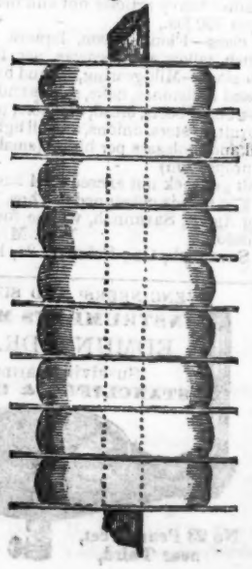


Fig. 3.



So much has been published for the purpose of misleading the public in regard to the inventorship of the India-rubber Railroad Spring, patented in the United States by Mr. W. C. Fuller, that the New England Car Company, proprietors of this invention, have deemed it proper, for the information of Railroad Companies, Car Builders and the public generally, to lay before them the facts upon which they found their claim to this invention, and to a Patent therefor.

Cut No. 1, Represents a cross section of the first model made by Mr. Tucker, under the direction of Mr. Ray, in the summer of 1844, and to which Mr. Tucker, Mr. Bradley and Mr. Bannester testify as being the model marked "B."

Cut No. 2, Represents the model made in 1845, to which Mr. Osgood Bradley and Gen. Thos. W. Harvey have testified.

Cut No. 3, Represents a rough sketch made by Mr. Ray in 1844, which he gave to a man about departing for England to take out some patents, who promised to write to Ray after his arrival in that country—which promise he has probably forgotten.

Mr. W. C. Fuller, of England, patented the above Spring in that country on the 23d October, 1845. He filed his enrollment April 23d, 1846, and on the 22d October, 1846, he took out a patent in the United States under the title, "For Improvement in Railway Carriages," when the improvement consisted in the spring, and not in the carriage.

The reader will perceive by the annexed testimony, that the India-rubber Railroad Car Spring was invented by Mr. Ray about two years previous to the date of Mr. Fuller's enrollment.

The Depositions are omitted for want of room, but will be published in full in the course of a few weeks.

AMERICAN RAILROAD JOURNAL.
PUBLISHED BY J. H. SCHULTZ & CO.
ROOM 12, THIRD FLOOR,
No. 136 Nassau Street,
NEW YORK.

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